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Original Articles.

CLOSURE OF WOUNDS.*

MILES F. PORTER, M.D.

Professor of Surgery and Clinical Surgery, Fort Wayne College of Medicine.

FORT WAYNE, IND.

The methods of closing wounds now in vogue are not the best. This opinion is based on personal experience, observation of the work of others, inquiry and reading, and is the excuse I have for the presentation of this paper. I do not claim either priority or originality in the methods of wound closure advocated in this paper. My object in writing it is chiefly to urge a general adoption of the improved methods, and incidentally to show the desirability of a wider application of them than is made perhaps even by those who already use them.

For a considerable time I thought the method of closing wounds by tier sutures of absorbable material with a subcuticular suture for coapting the skin was the acme of perfection. Now, with rather rare exceptions, I never use a stitch in either the skin or subcutaneous tissue, but use adhesive plaster instead. The plaster is applied in strips about one-fourth of an inch in width, after the skin has been thoroughly dried. No more strips are used than are necessary to maintain perfect coaptation. If desired, they may be left on for two weeks. Some cases, as for instance operations for mammary carcinoma, will require either two or three tension sutures in connection with the adhesive strips, or instead the wound may be closed throughout with subcuticular stitches of catgut. Again, in rare cases a few stitches may be needed to obliterate dead spaces in very fat subjects. In these cases, however, it is usually possible to obliterate the dead spaces by placing strips of adhesive plaster over rolls of gauze placed parallel to the wound. I regard the use of adhesive strips in the closure of wounds as a long step in advance of the buried absorbable suture, which in its turn was a long step in advance of the older methods.

To-day, with the combined use of buried absorbable sutures and adhesive strips, results may be obtained which are far superior to those following the use of through-and-through sutures. Save in cases where much tension is necessary to maintain coaptation in the presence of infection, a suture through the skin is unnecessary, and will soon come to be considered as an evidence of want of skill or care on the part of he who places it.

Tension alone of the skin or subcutaneous tissues is not a sufficient excuse for placing a suture through the skin in a case where the avoidance of a scar is particularly desirable.

Superficial abscesses are less frequent with buried than with through-and-through stitches; they are least frequent when adhesive plaster is used and all stitches are avoided. There are three reasons why this is true: 1. There is better drainage when no stitches are placed. 2. The coaptation is more perfect. 3. Trauma is avoided. It may seem paradoxical to say that the drainage is better with the method which gives the most perfect coaptation. Nevertheless this is true. The blood which collects beneath the skin easily presses apart the elastic skin edges between the plaster strips and is immediately taken up by the gauze, and as soon as the oozing stops the skin again falls into apposition. I frequently remarked that the dressing over wounds closed with adhesive strips, other things being equal, was much more blood-stained than the dressings over wounds closed by suture. Perfect coaptation is, then, not incompatible with drainage. Indeed, the principal objection to the subcuticular stitch is that by its use the wound is closed too tightly. When suppuration does occur in wounds coapted by adhesive plaster it is of much shorter duration and less extensive than when stitches are used. By the use of adhesive plaster the scar is reduced to the minimum.

Another advantage of the adhesive plaster is that its use takes so much less time than does the placing of sutures by any method. The objection may be urged that there is danger of the plaster not being aseptic. There need be no fear on this score, however, as the plaster may be kept ready for use in an air-tight receptacle in the presence of formalin, which will thoroughly asepticize it without in the least diminishing its adhesive properties. I have used many of the rubber plasters in the market, and save that some adhere a little more strongly and promptly than others, I have found no difference in them. Plasters with much resin in them may irritate the skin.[1]

In operations about the face the avoidance of scars is particularly desirable. How common is it, for instance, to see the face of a patient who has been operated on for hare-lip terribly disfigured by scars caused by the stitches or pins used for purposes of coaptation. The cases of hare-lip requiring the placing of a stitch which shows are exceedingly rare. Subcuticular sutures with adhesive plaster is all that is required, and the results obtained will be found to be infinitely more satisfactory. Stitch-abscesses are a menace to life in a very slight degree only, but in however so little they increase the

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1. Folding both ends of each strip of plaster so as to produce a hem, as it were, free from adhesion, will materially facilitate the removal of the strips. I am indebted to Dr. H. A. Duemling of Fort Wayne for this suggestion.

danger of operation this were a sufficient reason for doing all in our power to avoid them. In many cases the strongest reason for preventing suppuration of this kind is because it decreases the strength of the wound. For a through-and-through skin stitch, or a subcuticular stitch to be the cause of suppuration extending to the deeper structures is not an extremely rare thing. Generally speaking, animal sutures, with our present knowledge of preparing them, are not, as a rule, to be used in the presence of infection. This necessitates the use of non-absorbable sutures which can be removed when they have fulfilled their purpose. Such a necessity sometimes arises in operations for hernia. It can be met by placing the sutures mattress-fashion, and bringing the ends out through the skin and fastening them there by using perforated shot and buttons.

This method reduces the number of skin punctures to a minimum, and does away with the dangers incident to the constriction produced by tying the sutures in the ordinary way. Another plan which has been found to work well is the use of a running stitch of non-absorbable material, each end of the thread being fastened by the shot and button. The objections to this later form of suture are two: 1. Its removal is painful. 2. If suppuration does occur it will be more extensive, other things being equal, than with an interrupted suture. When either of these methods are used for the deep structures the superficial ones are coapted by the adhesive plaster. Still another plan which I have found to work well where for any reason non-absorbable material was deemed necessary for the deeper tissues is to place the stitches as though the usual figure-of-eight stitch were to be used, but instead of completing the figure by tying, and thus coapt the skin, each end of the thread is fastened by the shot and button at a short distance from the margin of the wound. The skin is then brought together with adhesive strips. No matter how fat the subject, the proper placing of this stitch will not only result in effectually coapting the deep structures, but will also prevent the formation of a dead space between the deep structures and the skin, and with a minimum of constriction and trauma, both of which are particularly to be avoided in fatty tissue.

Save in intestinal work, I believe that non-absorbable material should not be used for suture with a view of allowing it to remain permanently. Personally, I have not for five years seen a case in which I thought such use necessary or advisable. Within this time I have operated on several large scrotal and umbilical hernias. I said in an earlier part of this paper that animal sutures were usually contraindicated by the presence of infection. This, I think, is correct, and yet I have used them under these circumstances, with the most gratifying results. In a case in which a large part of the half of the lower jaw was resected together with a portion of the cheek for an infected carcinoma I closed the wound throughout, except for one silkworm-gut stitch next to the drainage tube, with subcuticular catgut stitches and adhesive plaster, with the result that the scar was reduced to a line in width, save at the exit of the tube and the location of the through-and-through stitch. The necessity for drainage for other than infectious fluids is not a bar to the use of animal sutures.

In the presence of infection necessitating drainage there is especial reason for avoiding sutures particularly to coapt the skin or subcutaneous tissue. In such cases only such sutures should be used as are absolutely necessary to coapt the deeper structures, and the superficial ones should be coapted by the use of adhesive strips. Even these deeper sutures can be avoided in many cases wherein they are now, by the majority of operators, deemed necessary. To illustrate, an amputation of the arm seldom, if ever, requires a suture, and, as indicated above, they are especially to be avoided in such operations done through infected tissues. Court plaster, collodion and cotton and collodion alone are inferior to aseptic adhesive plaster. The reasons for this opinion, it seems to me, are too patent to require their being given.

CONCLUSIONS.

In conclusion, I desire to emphasize the following points:

1. The use of sutures should be avoided save where necessity demands their use. Many wounds, in which sutures are now commonly used, may be coapted more perfectly, more speedily and more safely without the use of sutures.

2. Tension and moisture are the only conditions making sutures necessary.

3. When sutures are necessary buried absorbable sutures should be used in all cases where there is no infection.

4. The necessity for drainage does not contraindicate the use of adhesive plaster for purposes of coaptation.

5. It is doubtful if the use of non-absorbable suture material should ever be used with a view to its remaining permanently.

6. Non-absorbable sutures are not necessary nor advisable save in intestinal work and in the presence of sepsis.

7. In those cases in which non-absorbable sutures are necessary that method of applying them should be chosen which will subject the tissues to the least possible trauma, produce the fewest possible avenues for infection through the skin, and permit of their being removed when they have fulfilled their mission.

207 W. Wayne Street.

DISCUSSION.

DR. JOHN E. SUMMERS, JR., Omaha—When I commenced the practice of medicine more than twenty years ago I used plaster in the open treatment of wounds. With our modern methods of the treatment of wounds we discarded plaster, and we discarded a very useful material, but probably it was a good thing, because it taught us to be more cleanly; but as plaster is made to-day there is no doubt that it can be used, and there is no question that thoroughly clean work can be done with it. The technic which Dr. Porter brings to our attention seems to me to be ideal. For the repair of wounds we have two or three things to consider: we must have accurate hemostasis; we must have exact coaptation of the edges, and from the bottom to the top the wound must be held together without tension. If this can be accomplished, we have done all that is necessary, and the very best things that can be done.

This can be accomplished in the superficial wounds always, but in the deep wounds I doubt whether it can be done, and as the Doctor has suggested, it may sometimes be advisable to use some kind of a stitch as an aid to the result desired. I would hesitate very much to rely entirely on plaster strips for the coaptation of abdminal wounds, except in selected cases where a normal convalescence was assured. Now in an abdominal operation of any seriousness there is a certain amount of shock, with moist skin, and after the wound has been dressed the adhesive plaster may loosen and not keep the edges together. For this reason I hold that it is unwise to use plaster in wounds of that kind. However, when we do use adhesive plaster, I think you should have a pretty definite idea of how it should be applied, and judging from the Doctor's drawing, he does apply it as I think it should be. Both ends of the plaster strips should be applied at reasonably fixed points.

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Below they should go over the crest of the ilium, and they should cross over the inner border of the latissimus dorsi muscle. Then you have two points as nearly fixed as they can be gotten. If it is applied in this manner, then you can be sure if distension occurs that the plaster will hold.

DR. HERMAN E. PEARSE, Kansas City, Mo.—The tendency of us all is to do too much suturing about wounds, too little of which is really effective. We must recognize the fact that one of the most prominent steps in surgery was taken when suture material was perfected. it seems to me that the plan that the Doctor advises of the surface approximation of wounds, and if necessary the absorbable suture below the surface is a most excellent one. It has never seemed to me safe surgery to depend entirely for the closure of abdominal wounds on absorbable sutures. It may be that one or two unfortunate instances have made me more cautious in this regard. I remember particularly one old lady, quite advanced in years, where healing was particularly slow, in which the absorbable suture was used, and through some defect in the suturing or suture material the wound gave away on the fourth day, and I was chagrined to see three or four coils of intestines roll out. These were returned, and a through-and-through suture applied, and the patient made an uneventful recovery without hernia, and yet I suspect that many a case has this accident beneath the skin. If the damage was done in the first few days, it might never be suspected by the surgeon, and there would perhaps be a sufficient union for the surface to heal, and leave the inner layers of the abdominal wall separated. It seems to me that this method is better than suturing for wounds on the extremities and about the face. I think that the through-and-through suture of silkworm-gut should be used in abdominal surgery in addition to the superficial suture. At least one should use a few such "splinting" silkworm-gut sutures in connection with the adhesive strapping and the absorbable sutures.

DR. ANDREW W. MORTON, San Francisco—I have been very much interested for a considerable number of years in the use of adhesive plaster for the closure of wounds, and I do not think we should let this speaker go on record without a challenge. In the first place the Doctor speaks of closing wounds in the abdominal cavity by means of adhesive plaster, without using any suture to close the fascia. We all know very well from our experience in abdominal surgery that the principal thing that gives strength to the abdominal wall is the fascia, and if it is not brought together by means of stitches, how can it be brought together? The adhesive plaster simply pulls the outer structures together, and the fascia, which gives strength to the abdominal wall simply disappears by retraction. You can simply make coaptation of the skin by means of the adhesive plaster, but not of the deep structures, and if there is one thing that we are taught in surgery, it is not to leave any dead spaces. You take any deep wound and it is practically impossible to prevent dead spaces occurring by means of the adhesive plaster. I speak on this subject because I find that there is one thing that we are prone to do with any new subject, and that is to go to the extreme. Now, in closing superficial wounds, we have long since learned that it is an admirable method, because, in that condition we generally have a very low vitality of the structures, and on account of the amount of pressure which is necessarily brought to bear in closing these wounds by a stitch, which produces tissue necrosis—always an unfavorable condition. Another thing in regard to the use of the stitch, and the principal reason why the stitch is so often objectionable is on account of infection. In my opinion there are only two reasons for getting infection: First, not being aseptic, and second, surgeons all over this country in tying a stitch, put too much strength on it, and as a result they get tissue necrosis, which invites infection. To-day there is not the objection to the use of buried catgut sutures that there was a few years ago. I can see no objection to the use of the adhesive material, if you use the absorbable catgut suture, or chromatized catgut, to close the deep wounds. There is only one form of adhesive plaster with which I have had a large experience, and that is the form prepared by oxid of zinc. The first I used was the other, and I found that eight or ten days after the operation there was great danger of excoriation of the skin, which is naturally painful and dangerous. This excellent paper brings our attention to one of the prominent things in surgery, but I believe that the Doctor is using it in cases where it is hardly justifiable.

DR. WILLIAM M. PERKINS, New Orleans—In many wounds perfect union may be prevented by maceration of the tissues or by slight hemorrhages either subcutaneous or appearing between the stitches. Sutures have a distinct hemostatic function which can not be satisfactorily performed by adhesive strips. The perspiration, when confined by an impermeable covering, may cause sufficient maceration to greatly favor superficial infection. Germs like heat and moisture. Asepsis is a relative term; practically no wounds are germ-free, but we aim to limit the numbers of pathogenic micro-organisms and to secure conditions unfavorable to their development. It is often advantageous, especially in warm climates, to afford free ventilation to the gases under a dressing. Adhesive plaster prevents this to some extent. The whole theory of the use of *absorbent* gauze and cotton is based on the necessity for having a dressing which will keep wounds free from moisture and allow for the circulation of gases. Adhesive plaster strips are an excellent means of closing many wounds, but are by no means universally applicable.

DR. MILES F. PORTER, Fort Wayne, Ind.—I can not consider it possible that my paper was misunderstood by very many, as it seems to have been by this gentleman. I stated that you could not use adhesive plaster where there is tension, and there is tension where you coapt a hernia wound. I have used the adhesive plaster for the purpose of coapting wounds that could be coapted by it, and not for the purpose of deceiving myself. I stated that wherever there is tension, it must not be used. The method I ordinarily employ in abdominal wounds is to use the tier sutures of absorbable catgut, sterilized, for the deep structures and plaster for the skin. I have never had occasion to be sorry for it, although in some cases I have had occasion to be sorry that I made the operation, as in such cases as those related by Dr. Summers. Vomiting with opening of the wound, however, will occur when non-absorbable sutures are used as often as when absorbable sutures are used. I agree with Dr. Summers that it is advisable sometimes to employ stitches of nonabsorbable material. In regard to the moisture that you have when you coapt the skin with adhesive plaster, I do not know how it would be in this climate, but I have closed over one hundred wounds in this manner without trouble from this source. Beneath the plaster, of course, there is a small amount of moisture which comes from the follicles.

When you come to remove these little strips of plaster, oftentimes it is hard to pick up the end, but if you will just take the strip and turn in a quarter of an inch on each end before applying it to the wound, then you can take hold of each end very easily. Now regarding the treatment of abdominal wounds. I use short strips of adhesive plaster, three inches in length and one quarter inch wide, to coapt the skin, and over the dressing I place long, wide strips of adhesive plaster that reach three-quarters of the way around the body. My strips of adhesive plaster are put on solely with a view of keeping the skin and subcutaneous fat coapted, and you can not keep anything else coapted in that manner. If the man who has made many operations on the face using through-and-through sutures will try the subcuticular stitch with adhesive plaster, I warrant you he will never go back to the old method.

For Prickly Heat.—*Clinical Medicine* suggests, since prickly heat is caused by the irritation from perspiration which can not readily evaporate, that it will be found better to resort to soap and water, used frequently, and to avoid alcoholic and alkaline washes. Once a day, perhaps, the irritated parts should be gently bathed, then dried thoroughly, and afterward anointed with cocoanut oil, which is absorbed readily, and should be applied with the hand. It is not greasy, and will not soil the clothing unless an excessive quantity is used.

A CASE OF ACUTE, NON-TRAUMATIC, MULTIPLE OSTEO-MYELITIS,

PRODUCED BY THE STREPTOCOCCUS, OCCURRING IN A MALE ADULT.*

JOHN T. BOTTOMLEY, M.D.
BOSTON.

NARRATION OF CASE.

A. H. C., 43 years old, a theatrical manager, was born in France, lived most of his life in England, and had been five years in this country. His family history was negative. His previous history up to 1892 was not noteworthy. Though he had led an irregular life, with much excitement, travel and exposure, he had always been strong and robust. Venereal infection was denied; a moderate use of alcohol admitted. About 20 years ago he broke his left tibia at the junction of the lower and middle thirds, but it had given him no bother since.

Ten years ago he had an attack of "left-sided pleurisy" which lasted about six weeks. Though he soon recovered his normal weight and strength, he has since then had more or less pain in his left chest, a harassing cough, an almost constant bloody expectoration and the lower lobe of his left lung has been flat to percussion. These symptoms have always been exaggerated after prolonged physical exertion or mental worry. Occasionally, but only for a period of a few weeks at most, he would be free from them. Such a period occurred last spring, but the symptoms, returning in June, continued till his death. Several specialists, both here and abroad, had examined him, but a definite diagnosis had never been made. The uniformly bloody, prune-juice expectoration had been carefully examined again and again for tubercle bacilli, streptothrix, actinomyces and for neoplastic elements, but always with negative results. He had undergone, as a diagnostic measure, most thorough anti-syphilitic treatment without relief or change in his condition. His symptoms, subjective and objective, continued the same year after year. Repeated punctures at different times showed only a thickened pleura. No fluid, purulent or otherwise, was ever obtained, nor was a cavity in his lung ever demonstrated. A distinguished New York specialist who saw him a number of years ago had an opportunity of re-examining him last fall and found the physical signs unchanged, which rendered very improbable the diagnosis of a slow-growing malignant tumor of the lung which had once been advanced.

Aug. 1, 1902, while making a railroad journey, very sudden and severe pain began both in his left arm just below the shoulder and in his left leg about the middle. Though he had considerable fever (103), the severe pain was his only subjective symptom for several days; then he had a chill, a diarrhea started in and he began to feel "sick all over." A physician was called who reports that at that time (six days after the acute onset) there was "a swelling with deep pain on pressure over the inner surface of his left upper arm, at the junction of the middle and upper thirds. There was also deep induration over the outer aspect of the middle third of the left leg. Both arm and leg were swollen and the swellings were so tender that a thorough examination was impossible. There was no glandular involvements. The urine was negative; there was no temperature." Anti-rheumatics internally with local cooling lotions seemed to afford some relief for a day or two, but the pain then became more intense and the patient started a run of fever which varied between 100 and 102, but followed no definite type. Sweating now began, slight at first, but gradually increasing till it became a feature of his illness. A white count, made about the sixteenth day, showed a leucocytosis of 17,000. The patient became more and more ill; the temperature assumed a higher level and fluctuation finally appeared in the swellings on the arm and leg. A surgeon who saw the case in consultation at this stage opened the abscesses under local anesthesia, the patient's critical condition contraindicating a general anesthetic. The humerus and fibula were found to be partially denuded of periosteum, but "no connection with the bone marrow could be established." During the following month several operations were done on the left arm and leg to secure proper drainage. The symptoms, however, continued and the patient's condition grew gradually worse. His temperature varied from 101 to 103, while his pulse was about 125. A month after the onset of the disease his right forearm and right leg began to swell and to become tender and painful. An abscess over the upper part of the ulna was opened and drained; bare bone was once more found. The leg was not opened. The pus from all the abscesses showed the streptococcus in pure culture and the same organism was found in the expectoration. About the sixth week of his illness the state of the left arm became so bad that amputation was advised, but it was not done, partly because of the patient's unwillingness and partly because of his condition, which by this time had become so critical that even simple incision of an abscess under local anesthesia threw him into marked shock. For the latter reason a sequestrum which had formed in the left humerus was not removed. Numerous punctures into the flat area of the chest were made, but no pus was found. Yet a specialist in chest diseases who saw the patient in the sixth week of his illness diagnosed the chest condition as a pulmonary abscess.

Oct. 17, 1902, in the eleventh week of his illness, the patient came under my personal observation. He was emaciated and evidently septic. His temperature was running about 101.5, his pulse about 120. His respirations were only slightly accelerated. His chief subjective symptoms were his cough, severe pain in the left arm and right leg and moderate pain in his left leg and right forearm. His urine showed a slight trace of albumin, but was not particularly abnormal. He had an intermittent diarrhea which annoyed and weakened him greatly.

The whole left upper arm was swollen, thickened and edematous. On all its aspects were the wounds of his previous operations, some partially healed, some wholly open. From all came a free, foul-smelling, thick, purulent discharge; through all the examining finger could feel bare, roughened bone. The shoulder joint was involved in the process. The left forearm and hand were also swollen, but only as a result of the impeded return circulation.

On the external aspect of the left leg in its upper third was a partially healed wound about four inches in length. A sinus at its center led down to the fibula denuded of its periosteum over a considerable area. The discharge was not profuse. The upper half of the leg was only moderately swollen.

There was some general swelling of the whole right leg, but it was more noticeable over the lower half, especially just above the ankle joint, where there was marked edema and the tenderness was exquisite. The skin over this area was not reddened.

The right forearm was swollen from elbow to wrist, mostly posteriorly and on the ulnar side. Over the upper posterior surface of the ulna was a wound two inches long which, like the others, led down to bare bone and gave exit to a profuse discharge of thick pus. The elbow joint was apparently uninvolved, but was fixed at an angle of 45 as a result of its being held in that position for some weeks.

The rest of the story can be briefly told. At the first visit simple incisions were made in the right leg to relieve the tension and let out the pus. The previous incisions on the other members were lengthened to provide more effectual drainage. These procedures afforded so little relief that, after consultation with Dr. John C. Munro, radical measures were decided on, notwithstanding the critical condition of the patient. In two operations, one following ten days after the other, under general anesthesia, a very foul sequestrum six inches long was removed from the left humerus (the well-marked involucrum adding much to the difficulty of the operation), one

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about four inches long from the left fibula and another about two inches long from the right ulna; the right leg was freely opened and large areas of bare bone found on both tibia and fibula; the tibia was trephined and, pus having been found in the medullary cavity, a gutter was made with a chisel down the whole front of the cortex. The medullary cavity of the right fibula was opened with rongeur forceps and drained. It was not so extensively involved as the tibia. The right ulna was treated likewise and free drainage provided.

Necrosis of bone was very extensive in the left humerus and right tibia. There was a large quantity of foul, thick pus in the soft parts of the lower right leg. The periosteum was but little thickened over the upper half of the tibia, but was retracted from a large portion of the cortex of the lower half.

These operations brought the temperature down to normal for the first time in the course of the disease and there it remained till the end, save when backing up of the pus on two occasions caused a temporary rise to 101. The pulse also fell to the neighborhood of 100 and for two weeks following the operations the patient was very comfortable and spent part of each day in a wheelchair. But, unfortunately, recurrent attacks of diarrhea, the several operations necessary to maintain proper drainage, with possible advancing amyloid disease of his internal organs, so weakened him that he died early in January, 1903, on the one hundred and fifty-fifth day of his illness. Without doubt he had septicemia. An autopsy could not be obtained.

His fever was at its highest during the third and fourth weeks, touching 104.8 on the twenty-ninth day. It touched normal for the first time on the ninety-seventh day. The average temperature was about 101.5; the average pulse about 115; the highest rate reached was 140, coincident with the highest point of temperature. Except for a period of two weeks following the free opening of the bones, the patient was very restless and nervous, particularly at night. On and off a severe diarrhea gave him much trouble and was most difficult to control. He took very large quantities of nourishment throughout his whole illness and had very little gastric disturbance. Profuse sweats were common; chills were absent. During the course of his illness he developed a marked pilosis —a condition not uncommon in these cases. His cough was very troublesome and the expectoration always blood-stained, sometimes with dark, but more often with bright blood.

The immediate cause of his death was cardiac failure, of which he had several attacks during the last two weeks of his illness.

COMMENTS ON THE CASE.

With regard to the diagnosis in the case there is but little to say. The long-standing affection of his lung, whatever may have been its nature, afforded to the streptococcus a focus of development in the body, a point of entrance to the circulation and a consequent opportunity to produce the unusual condition already described.

After the paper of Lexer[1] and that of Nichols, presented at the present meeting, there is at present nothing to be added to the bacteriology and pathology of osteo-myelitis. This clinical contribution to the subject has reason for its being in these three factors: (*a*) the case showed multiple foci; (*b*) it occurred in an adult 43 years old, and (*c*) the infecting organism was the streptococcus.

Acute multiple osteo-myelitis, while not a very rare disease, is still by no means common. Funke[2] reported to the Surgical Congress in 1895 644 cases of osteo-myelitis; of these only 37 were examples of the multiple type. Neumark[3] reports 30 cases, five of which were multiple; Volkmann and Roser[4] consider the multiple form rare, and Wenzel reports a single case in a girl of 13. Haaga[5] says that one-fifth of all the cases are multiple. But, apart from the question of the rarity of this form of the disease itself, the fact that the present case occurred in an adult far removes it from the ordinary run of osteo-myelitis cases. Only 56 of Funke's 644 cases were found in patients over 25 years old. Of the 37 cases with multiple foci, all—without exception—occurred in children. In fact, he says that the multiple form occurs only in children. Four cases mentioned by Volkmann[6] were all in patients under 14 years old.

In a fairly thorough search of literature I can find but one similar case of acute multiple osteo-myelitis occurring in an adult. H. F. Devel, in the proceedings of the Warsaw Society in December, 1885, reports the case of a soldier, 24 years old, who, in the course of a severe cold, developed osteo-myelitis foci in a rib and tibia synchronously; these were followed in the next three months by foci in six other bones. The infecting organism was not mentioned. Even this case comes on the border-line between youth and manhood.

Moreover, the case is noteworthy from the bacteriologic standpoint also. Lexer[1] in his exhaustive article (1896-1897) collected only 20 cases of osteo-myelitis in which the streptococcus was the infecting organism; 10 of these had been previously reported to the French Surgical Congress by Lannelongue.[7] Lexer remarks that the streptococcus, like the staphylococcus, shows a marked tendency to develop in the bones of the young. Lannelongue's cases varied in age from 10 days to 13 years. Of Lexer's 10 cases 8 were under 14 years of age.

In the examination of the pus from 73 cases of osteo-myelitis Lannelongue and Achard[8] found the streptococcus alone only 7 times.

Lexer has demonstrated that the clinical course of cases of streptococcus osteo-myelitis may not be unlike that of a staphylococcus infection. He divided streptococcus infections into three groups, in the first of which —containing those cases in which phlegmon was very marked in the affected bone and sequestration was found —the present case falls. Clinically it does not differ in any important item from the cases caused by the staphylococcus. Before Lexer wrote his paper Lannelongue had recognized a difference both clinically and anatomically between the streptococcus and the staphylococcus infections, and the symptomatology of the present case illustrates the fact (mentioned by Lannelongue) that both the fever and the pain in the streptococcus cases are apt to disappear on the third or fourth day. The improvement, however, is only temporary. Both symptoms return again.

It seems to be generally agreed that the pus in streptococcus cases is thinner and the necrosis of bone and soft parts less than in the cases of staphylococcus infection.

Klemm[9] says that a widespread phelgmon of the medulla is rare in streptococcus cases and that edema of the soft parts is of wide extent. Because a single case can not be maintained as the standard, the fact that the pus in the present case was thick and that the medulla was widely involved is of no particular importance. Besides, secondary infection was present at the time I first saw the case.

But let the clinical or the pathologic or the bacteriologic aspects and differences be as important as they may, the fact remains that the important and imperative thing, the factor that means most to us and to the patient, is an early diagnosis. An early operation must follow an early diagnosis. The old principle of "Where there is pus, open and drain" holds here. Pus is in the medullary cavity and it is the medullary cavity

in the acute cases that must be opened and drained, that results may be achieved. Doing less than this is doing nothing. Temporizing, when a diagnosis has once been made, is criminal.

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DISCUSSION

ON THE PAPERS OF DRS. BOTTOMLEY AND NICHOLS.*

DR. DE FOREST WILLARD, Philadelphia—It is not only the ordinary practitioner who is dilatory in diagnosis, but there are many surgeons who are slow in making up their minds and the golden opportunity is lost. Every case of osteomyelitis is infective, and we know that it needs as prompt attention as does a case of acute appendicitis. It should be recognized in the first forty-eight hours; it should be operated on in the first forty-eight hours. It should be operated on as soon as the diagnosis is made, whether it be of a streptococcus infection or a staphylococcus infection, and therein I would differ with Dr. Bottomley. In regard to the infection: I believe that the streptococcus infection is particularly serious, but in either case cutting inside the medullary cavity of the bone, freeing it from pressure and from infective elements is the only method which promises relief from total, or large destruction of tissue. The ordinary practitioner, and still less the surgeon, ought not to allow these cases to go on to destruction, suppuration and death. These cases are practically dying from sepsis when they come into our hands, and they have been treated for what? For that bane of progressive medicine, "rheumatism." If we could strike the term rheumatism out of the surgical world, it would be a blessing. One of the most potent destroyers of men, women and children is that cloak of ignorance, inattention and neglect, "rheumatism." How many cases we see dying day by day with an abscess containing ounces of pus, and the physician still treating it for rheumatism, or for typhoid fever. This is not an uncommon thing—every surgeon sees it over and over again. What is most needed is early, correct diagnosis. The treatment is plainly indicated.' Where we have the evidences of rapid infection, with increasing pain, and deep-seated tenderness, there is only one rational treatment, that is to operate at once, relieve pressure and establish thorough drainage from the medullary cavity of the bone. The opening can not be made too quickly or too freely.

DR. J. CLARK STEWART, Minneapolis—I think it is most opportune that these papers should have been read to-day, because we have been hearing so much of the various forms of abdominal surgery, particularly that of ulcer of the stomach, gall-bladder disease and appendicitis, while it is rare to hear papers on osteomyelitis. I overheard a remark while in my seat, which I hope the gentleman who made it will pardon my repeating. When Dr. Nichols took the stage he said, "What, another paper on osteomyelitis; they must have a great deal of osteomyelitis in Boston," which reminded me of Dr. Oschner's story in regard to gall-bladder disease in Rochester, and I think that Dr. Nichols might answer very much in the same way that Dr. Mayo did: "We diagnose our cases of osteomyelitis in Boston." I think, without doubt, that osteomyelitis occurs in the practice of every man here, and possibly oftener than he recognizes, and there is no question that a very large percentage of the cases are primarily diagnosed erroneously. The diagnosis of these cases as rheumatism, which Dr. Willard mentioned, is probably the commonest error made, this being especially true of the subacute and chronic cases. Among the acute cases the diagnosis of typhoid is often made, and this error is a very serious one in causing delayed treatment. It has been my lot to see several cases treated in a general hospital as typhoid until the abscess presented at some external point, and this, of course, has not the excuse of the same diagnostic error earlier in the history of the case when severe sepsis may so mask the local symptoms as to make the resemblance to typhoid quite striking. The leucocytic count ought to clear up all these obscure cases, as there is regularly a decided leucocytosis in all acute cases of osteomyelitis. The early diagnosis of osteomyelitis is unquestionably the important point, and with the facilities at our command ought to be made in most cases without great difficulty. In the subacute and chronic cases the difficulty of diagnosis is very much greater, and frequently there is no diagnosis made until a bone lesion is discovered at the bottom of the superficial abscess cavity. Fortunately, in these forms early operation is not of so great importance as in the acute cases. In regard to Dr. Nichols' paper there were two or three points in which I was particularly interested. One was the instruction that in early operations you should cut in the medullary cavity and drain the bone without interfering with the marrow. This seems to me dangerous as a general rule, for while I have no doubt that in many cases operated on early, one is able to say whether or not marrow is infected, still judging from my own experience there are cases with multiple foci scattered through the marrow where it would be extremely difficult without removal of the marrow itself to determine the limit of the infection. In regard to Cushing's operation for the removal of the whole bone, it seems to me that this is unnecessarily severe and liable to misuse, for there are a great many cases of partial osteomyelitis in which a much less extensive operation will secure perfectly satisfactory results. In many cases you can remove the sequestrum, clean out the cavity and get primary union by organization of a blood clot, and in other cases by the slower method of packing, the final results are very satisfactory. Personally, I have had very little experience with the Cushing operation, and the results which he reports in cases of total necrosis are certainly very brilliant, but I doubt whether it should displace the other methods which have stood the trial of time.

DR. RICHARD H. GIBBONS, Scranton, Pa.—Those of us who have been taught by William T. Detmold, James R. Wood, Thomas M. Marco of New York, and D. Hayes Agnew, the Grosses and our distinguished ex-chairman and teacher, Dr. Willard, need not fail to make a diagnosis of osteomyelitis nowadays, or in much earlier times. When I first began practicing medicine, thirty years ago, Detmold taught that pain of a dull character in bone was due to one of two causes, either syphilis, or inflammation that would result in abscess. If syphilis, one will get pitting on pressure over the tibia, whether there is inflammation or not, or how extensive it may be, whereas you will get but slight pitting if due to non-syphilitic inflammation of bone. Long since, I have been applying to suspected bone the test which the dentist applies to the questionable tooth. As Dr. Murphy has said, you will not get pain by pressure, unless it is long-continued, but you will get pain by percussive pressure. However slight it may be, you will get painful response by this method, even in the first hour of the attack. The thing to do before opening up or trephining inflamed bone is to locate the seat of the infection, by gently tapping over its supposed site. I have had considerable experience in this kind of work in the anthracite coal regions of Pennsylvania, where many of the boys engaged in and about the mines become infected, and I have chiseled out bone throughout its length, and I have never had a bad effect, although I chiseled the bone all the way from the head of the tibia to the ankle joint. In one case I trephined and then guttered the entire bone, down into the malcolus. This was in an old man, and he recovered. These cases ought to all get well by operation, promptly performed, unless there is a tubercular infection in connection with the trouble.

DR. J. B. MURPHY, Chicago—I wish to congratulate the gentlemen on the practical points in the papers, and I wish to speak particularly on the second paper; I desire to still more forcibly emphasize the point of early diagnosis in acute infec-

* Because of its length Dr. Nichol's paper will be published later.

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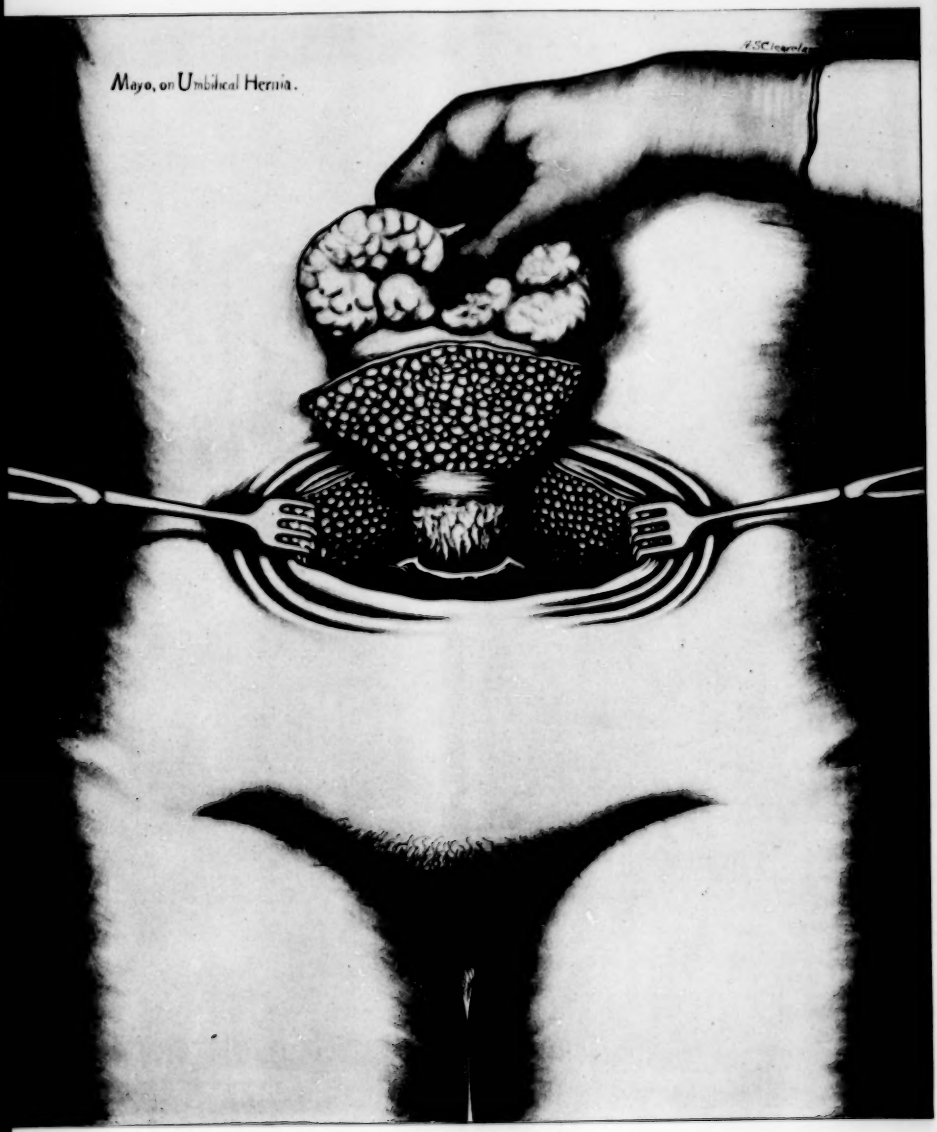

Figure 1.

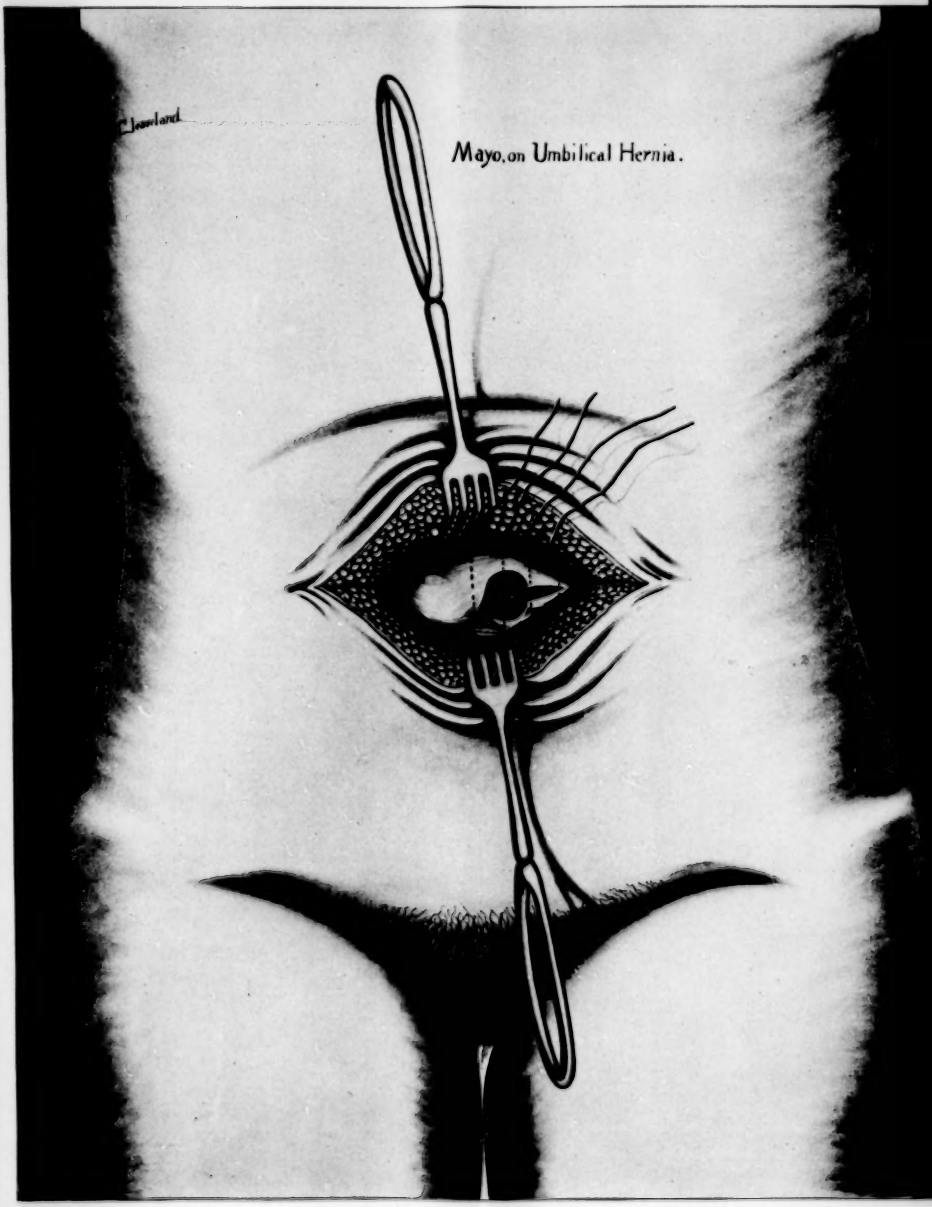

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Figure 2.

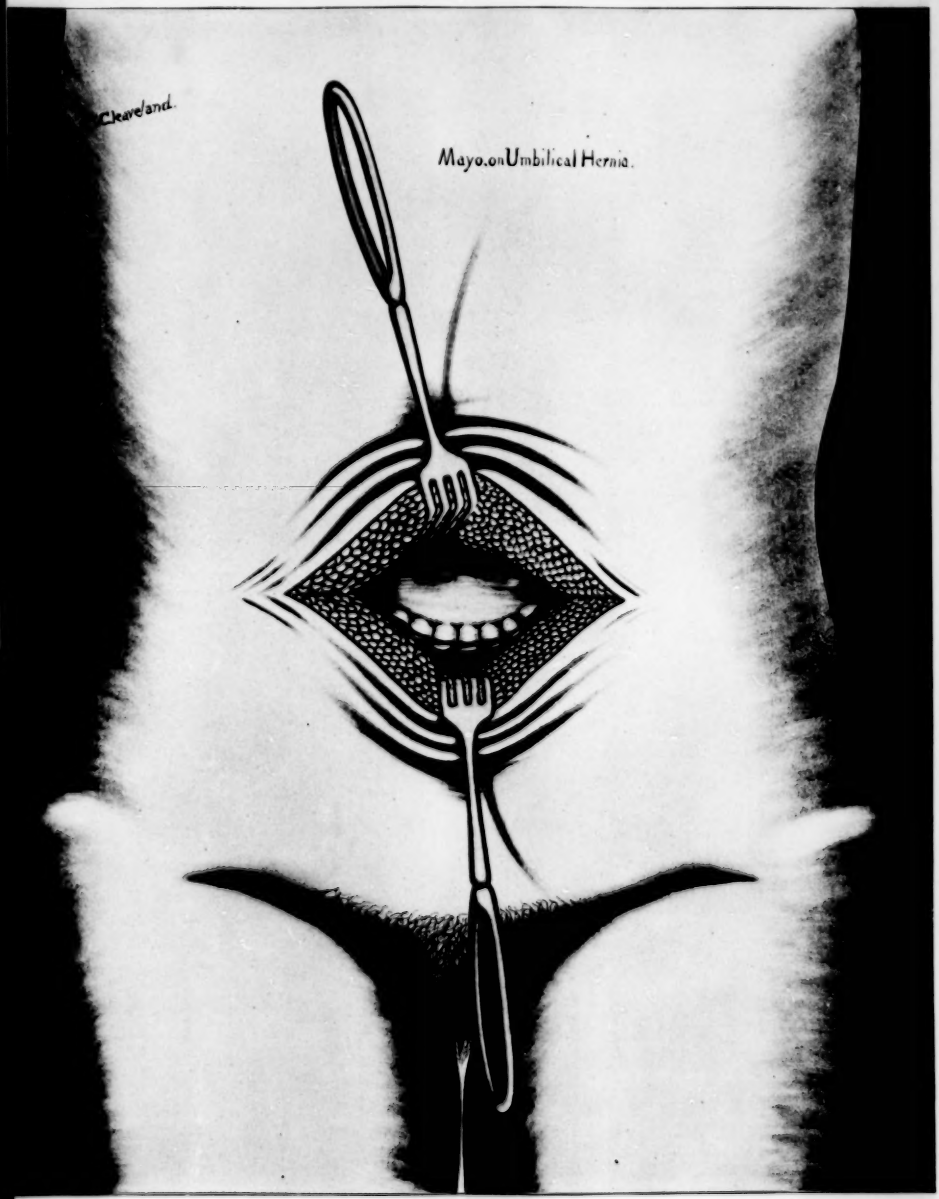

Figure 3.

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tive osteomyelitis. What do we mean by early diagnosis in acute infective osteomyelitis? In what way is the physician of importance to his patients in a case of acute osteomyelitis? He is of importance to his patient in only one way, and that is when he makes a diagnosis inside of the first forty-eight hours. He is only of value to the patient when the case is diagnosed and operated on inside of the first forty-eight hours. Can it be done? Yes. The history of a case of osteomyelitis is so classic, so typical and so uniform that one can make the diagnosis ten hours after infection has occurred, or ten years, by interrogating an individual who was present at the time of the infection. What is the order of symptoms? The acute pain is usually preceded by a chill, followed by high temperature. The pain occurs usually in the extremities of the long bones, and in the majority of cases in children is not associated during the first forty-eight hours with effusion into the joint close to the focus of the disease, differing in this particular from rheumatism, which it is so uniformly erroneously diagnosed. The pain and sepsis increase hourly, but there is no local sensitiveness. Now then, what takes place in the third twenty-four hours after the infection? It is purely a symptomatic expression of pathology. During this period there occurs septic intoxication, acute absorption, high temperature, delirium, and all that goes with it. And with the advance of pathologic changes, with the increase of infectious products, with increasing pressure within the medulla of the bone from the bacterial invasion, we have destruction of the bone tissue, both by the toxic and biotic action of the infective flora, acting under great pressure. Rapid absorption continues until there is destruction of a vessel in one of the Haversian canals and the escape of the pus into the subperiosteal space. In the early stages of a case of acute osteomyelitis, there are no signs of inflammation on superficial pressure over the bone. I mean, during the first forty-eight hours, while the infective material is confined and restricted by the bony wall. In the third day of the infection, we usually have an escape of the pus from the center to the subperiosteal space, and sensitiveness to superficial pressure. But there is a sign that is an important one from a practical standpoint in the early stages; deep and continued pressure elicits pain and frequently indicates the position of the infection, even while the infection is still entirely within the bony wall. This will aid in making the diagnosis of the location of the focus of the infection. When the pus elevates the peritoneum, there is rapid necrosis as the circulation is cut off from without and within. In forty-eight hours one may have complete destruction of the entire shaft of the bone. Therefore, if we are to be of service and beneficial to the patient, we must relieve that infection focus from the condition which is so dangerous in any tissue of the body, namely, infection under pressure, by making an incision down into the bone and allow the infective material to escape and thus avoid necrosis. We have just as perfect a guide to the source of infection as we find in many other cases of infection. One should drill a hole through the bone into the seat of the infection and allow the pus to escape from the bone, and thus relieve the intoxication and avoid necrosis.

If the general surgeon will get that window in the bone inside of the first forty-eight hours, he will save the patient from destruction of the bone, from the possibility of involvement of the joint, from the danger of fatal sepsis, and put him in condition for the line of demarcation to form, so that he will have but one small sequestrum. Then the case goes on and gets well, and the dead bone is easily removed through this window, after the separation of the sequestrum, usually in six weeks. Chills, high temperature, local aching and no sensitiveness in the first forty-eight hours, except on deep and continued pressure for one or two minutes, when the pain becomes excruciating, are very strongly in favor of acute osteomyelitis and demands as prompt surgical intervention as acute infectious peritonitis.

DR. EDWARD H. NICHOLS, Boston—One or two points brought out in the discussion deserve some mention.

As regards the question of diagnosis: during the past five years I have had an opportunity to see many of these cases during the acute stage, at the Boston City Hospital, both on my own service and on that of the other surgeons, who have kindly allowed me to see their cases, and I quite agree with all that Dr. Murphy says in regard to the desirability of early diagnosis, if we are to expect the best results. I do not agree, however, that the early diagnosis always is easily made. In some of the cases the typhoid symptoms come on so early that the patient is too stupid to notice the pain, and the cases may be treated as typhoid fever by excellent diagnosticians. In other cases the joint pain and swelling may be so extreme as to entirely obscure the bone affection, although monarticular pain, especially in children, always should arouse at least a suspicion of osteomyelitis.

In regard to the reparative power of the marrow: the integrity of the cortical bone is dependent on the integrity, both of the periosteum and of the endosteum. Extensive stripping of the periosteum usually produces considerable necrosis of the cortex; if the endosteum also is destroyed marked necrosis of the cortex is certain. Thence if one trephines into infected marrow and curettes out the remnant of undestroyed endosteum he destroys the membrane which, in some cases at least, might regenerate the infected marrow, and maintain the integrity of the inner layer of the cortex. No one would, of course, remove the periosteum because he found an abscess between it and the shaft, and the same thing applies to the removal of the endosteum.

In regard to the removal of the necrotic shaft. It is not always necessary to remove the entire diaphysis. It may be sufficient to remove one half, or whatever portion of the diaphysis is necrotic. The removal of the entire diameter of the necrotic shaft is, however, much preferable to removing merely a shell of apparently necrotic cortex. When a mere shell of cortex only is removed it will be found, if the cases are followed for a number of years, that recurrences take place in a large majority of cases, and permanent cures are not common. The cases where removal of a superficial shell gives a permanent cure are usually cases of periostitis with little involvement of the marrow.

FURTHER EXPERIENCE WITH THE VERTICAL OVERLAPPING OPERATION FOR THE RADICAL CURE OF UMBILICAL HERNIA.*

WILLIAM J. MAYO, A.M. M.D.
SURGEON TO ST. MARY'S HOSPITAL.
ROCHESTER, MINN.

The results of operations for the radical cure of umbilical herniæ in adults have, heretofore, not been encouraging. These patients are usually obese, with attenuated abdominal muscles, and the thin, rigid character of the ring does not offer mechanical conditions advantageous to lasting union.

The principles of closure have been the same as after an ordinary abdominal section, the object being to split the fascia at the ring margins laterally, until the recti muscles are reached, and then, by a series of buried sutures, to reconstruct the abdominal wall in layers. The defect in this method is the natural separation of the recti muscles at the level of the umbilicus. Below this point the muscular structures are practically in contact, but above there is from one-fourth to three-fourths of an inch separation. To bring the recti together in this locality amounts to a muscle transplantation. In a small hernia this muscular approximation is not difficult, and is the operation of choice, but in the larger openings an inch or more in diameter, it is impracticable, and, so far as I have been able to judge, the attenuated muscles, when secured, are

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

not of great value as retentive agents in this variety of hernia. In very corpulent subjects the muscular separation is greater. If such a patient, lying on the back, be directed to rise, bringing into play the recti muscles, the lateral deviation at the level of the umbilicus is easily shown, and in the majority of cases demonstrates the impossibility of bringing them firmly into median apposition. The strain in these cases is from above downward rather than laterally. This is well shown by the pendulous abdomen commonly found in very adipose people, in many cases covering the pubes and often the region of the upper thighs. On assuming the recumbent posture the stretched tissues allow of great mobility and one can often grasp the abdominal wall and overlap a number of inches without difficulty. The fibrous margins of the ring in umbilical hernia usually lie entirely above the junction of the urachus and the remains of the hypogastric arteries. These latter structures, as they deviate from the middle line below, often allow of the formation of considerable pouches between them and the urachus, showing their weight-bearing function.

The causation of acquired umbilical hernia can be said to depend on downward traction of the abdominal walls and their contents brought to bear on a fixed point at the umbilicus, causing separation, and before this takes place there is an increased vertical lengthening of the abdominal wall and also, to a less extent, in a lateral direction.

In a paper[1] read before the American Academy of Railway Surgeons, Oct. 4, 1898, I called attention to the impracticability of covering in the defect, left by excision of the larger umbilical hernia, with muscle, and advocated the overlapping of the aponeurotic structures which were already at hand, securing a wide area of adhesions in place of edge-to-edge union. This method we had then employed in five cases; in three the overlapping was from side to side, and in two from above downward. Extensive lateral incisions to find sufficient muscle to make the routine operation described by surgical writers compelled us, as a matter of necessity, to overlap from above downward in these two cases and, to our satisfaction, we found the parts came together with less tension than when drawn laterally, and time proved that the strength of union was as lasting.

The first of these overlapping operations was done in 1895. We have now made this operation 35 times, overlapping from side to side 10 times, and 25 times from above downward. There were no deaths. We have found the operation so much easier from above downward that we now employ it exclusively. We have recently had the majority of these cases examined and the permanency of cure was most gratifying; in only one case had there been a relapse, and in this one there was merely a boat-shaped stretching. The operation had been done from side to side, and the patient was much relieved from her former condition. So far as we could find out, there were no failures when the vertical overlapping had been properly accomplished. In a paper[2] on this subject read before the American Surgical Association, May, 1901, I again called attention to this method. Further experience with the operation, as well as good results in the hands of other members of the profession, has more than ever convinced me of its value. Writers on this subject deplore the poor results of operation for this variety of hernia and even the latest compilations speak most disparagingly as to the permanency of cure by any method, and this was previously our experience. To-day the expectation of cure approaches that of inguinal hernia. The operation is easily and quickly performed. The steps are as follows:

1. Transverse elliptical incisions are made surrounding the umbilicus and hernia; this is deepened to the base of the hernial protrusion.

2. The surfaces of the aponeurotic structures are carefully cleared two and a half to three inches in all directions from the neck of the sac.

3. The fibrous and peritoneal coverings of the hernia are divided in a circular manner at the neck, exposing its contents. If intestinal viscera are present, the adhesions are separated and restitution made. The contained omentum is ligated and removed with the entire sac of the hernia and without tedious dissection of the adherent portion of omenta.

4. An incision is made through the aponeurotic and peritoneal structures of the ring extending one inch or less transversely to each side, and the peritoneum is separated from the under surface of the upper of the two flaps thus formed.

5. Beginning from two to two and one-half inches above the margin of the upper flap, three to four mattress sutures of silk or other permanent material are introduced, the loop firmly grasping the upper margin of the lower flap; sufficient traction is made on these sutures to enable peritoneal approximation with running suture of catgut. The mattress sutures are then drawn into position, sliding the entire lower flap into the pocket previously formed between the aponeurosis and the peritoneum above.

6. The free margin of the upper flap is fixed by catgut sutures to the surface of the aponeurosis below, and the superficial incision closed in the usual manner. In the larger herniæ the incision through the fibrous coverings of the sac may be made somewhat above the base, thereby increasing the amount of tissue to be used in the overlapping process.

In very large protrusions in which part of the hernial contents is irreducible the patient should be kept in bed on a reduced diet and directed to manipulate the hernia, with the intention of replacing as much as possible. The irreducible portion must not be forced into the abdominal cavity after losing the "right of habitation." If of omentum only, it is readily disposed of by excision; if intestine, enough omentum previously contained in the peritoneal cavity should be removed to allow of reduction of the bowel without pressure. The patients should be kept in bed three to four weeks after operation and, after getting about, should not apply a truss, although most of these patients prefer to wear an abdominal supporter for a year. Piccoli[3] reports a case successfully operated on in August, 1899, after the lateral plan, and refers to a case reported by Bonomo, operated on Dec. 9, 1899, with a favorable result. J. A. Blake[4] reports several cases operated on by the lateral method during the year 1900, and refers to an article by Sapiejko,[5] in which a lateral operation is described.

The writer had described and operated by the lateral overlapping plan several years before the cases reported by these authors and the lateral operation is a good operation, but it is not as good as the vertical method, in which the retaining structures are given a bearing point above the site of the umbilicus and intra-abdominal pressure thus acts to prevent separation instead of aiding it.

1. Annals of Surgery, January, 1899.
2. Annals of Surgery, August, 1901.
3. Centralblatt fur klinische, Chirurgie, Jan. 13, 1900.
4. Medical Ass'n of Greater New York, Jan. 14, 1901.
5. Rev. de Chir., 1900, No. 2, p. 240.

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DISCUSSION.

DR. A. J. OCHSNER, Chicago—The fact that with but a few exceptions every text-book on surgery, and every book dealing with the question of hernia, claims for the radical cure of umbilical hernia: First, a large mortality; and second, a large proportion of recurrences, makes this paper of especial value to this Association.

The writers of these works have no appreciation whatever of the proper treatment of umbilical hernia. One of the most distinguished authors on the subject of herniotomy told me personally only a few months ago that he operated on these cases only when he was absolutely compelled to, simply because he did not know how to operate on them. As a matter of fact the reason there is a high mortality in these cases is because of the extreme and unnecessary traumatism occasioned by the ordinary operation. The ordinary operation contains at least ten times as much traumatism as is necessary. The operation usually described in text-books contemplates the establishment of conditions very similar to those which were present before the umbilical hernia was produced. The fact that those conditions were unfavorable for a permanent cure is shown by the fact that the umbilical hernia occurred. Statistics show that umbilical hernia in children heals spontaneously in nearly 100 per cent. of all cases, simply because it is impossible to keep a circular opening in any part of the body open, unless it is lined with a serous or an epithelial lining. So long as the opening is kept circular it will heal spontaneously. We find in all of these cases in the adult that there is a dragging of the abdominal wall transversely, causing the opening to assume an elliptical form. Then we find that the preperitoneal fat is forced up into this opening, the consequence being that the hernia occurs. To relieve this condition, we know that we can establish a condition very similar to the linea alba. We have the aponeuroses of the external oblique, the internal oblique and the transversalis muscles; we can make use of these, but we should not do so in such a manner as will prevent their drawing from side to side. This can be accomplished by the operation described by Dr. Mayo. In this manner the greater the tension on the abdominal wall the more firmly the hernial opening becomes closed. That is the reason he does not get recurrences. If the patient vomits, the more he vomits the tighter the wound is closed. I had the good fortune of learning this trick from Dr. Mayo several years ago. I have operated nearly as many times as he has, but I always closed the wound from above downward. In one-third of his cases he made the same mistake that Blake and the other gentlemen made who have described similar operations, but who overlapped the edges from side to side instead of from above downward.

The great advantage in this operation does not only come from the fact that the strong fascial layers are doubled but also from the fact that the deformity which always exists in these cases, namely, the shortening of the transverse circumference at the level of the umbilicus and the lengthening of the distance between the sternum and the pubis, is utilized to advantage.

DR. J. B. MURPHY, Chicago—It is a particular pleasure for me to discuss a paper on umbilical hernia, because I have had some misfortunes. I was very much surprised at the close of my clinic one day to have a visiting physician ask me if a case of umbilical hernia ever got well. That was an actual occurrence. He had just visited several other celebrated clinics and he said that all the cases he had seen operated on there died. It frightened me, and that very day the patient whom I had operated on died. That caused me to make some investigations and to ask some questions and it led me to visit Dr. Mayo and observe him do this work. My particular patient died from one of the causes that is cured by just this operation, and I believe that many of the other deaths have resulted from just this same cause, because in looking up the literature you will find that most of them died shortly after the operation. My patient died of pulmonary edema. In doing the lateral operation, the tension put on the suture incapacitates the patient for diaphragmatic breathing and the patient has an edema beginning shortly after the operation, and if the irritation is sufficient, in one, two or three hours after the patient has recovered from the anesthetic, you will see him panting for breath. It was my extreme pleasure, after doing the first operation by this method, to see that the patient was vomiting without even the slightest distress at the seat of the wound, and the reason for that is the excellent mechanical application, the one applied on the other, giving such perfect support that there is no tension on an edge-to-edge suture. I feel that the question of umbilical hernia is solved primarily and finally by this very simple, complete and perfect operation.

DR. WM. H. WATHEN, Louisville, Ky.—If we perform the operation for umbilical hernia, as outlined by Dr. Mayo, we have no bad results following the operation, and then consider the previous methods in vogue for this procedure and the high mortality following them, we will come to the conclusion that there is no operation which has more simplicity about it, or which may be performed with less mortality and with better results. Since I saw the report of Dr. Mayo's first operation, I have been performing it, and find it practically universally successful. About a year and a half ago, a lady consulted me, who was so large and fat over the abdomen that certainly no surgeon would have undertaken the operation after the old method, the hernia being very large, with many adhesions. She was operated on by the transverse overlapping method, taking away a very large piece of fat, and recovered without pus or temperature. She now has an abdomen changed in shape, and is perfectly well in every particular. I have had no trouble in these cases during the operation or subsequent thereto.

If I understood Dr. Oschner correctly, he said that the great success in these operations was due to the fact that it shortened, or contracted the transverse diameter, and elongated the abdomen longitudinally. Well that is what may occur in the old vertical method, but not in the overlapping transverse method. You shorten the abdomen vertically. The pressure transversely cannot pull the surfaces apart, and the patient continues to get well.

DR. WILLIAM H. MAGIE, Duluth—I wish to endorse the operation of Dr. Mayo by reporting two cases of umbilical hernia that I have operated on during the past year. They were both very fat women, the hernias were of long standing, and the results so far have been very satisfactory. I have used the same method in operation for cures of ventral hernia resulting from surgical operations in the abdominal cavity.

DR. ALEX. H. FERGUSON, Chicago—A lateral operation for umbilical hernia is indicated in certain cases, and in others I would commend the operation worked out by Dr. Mayo. In either instance the procedure is a plastic one in which the surgeon makes the best use of the material at hand to most securely prevent a return of the hernia. When the opening is not very large, the recti muscles in good condition, the lateral operation gives excellent results, remembering that the muscles must be liberated and sutured in mid-line over the coapted peritoneum, and transversalis fascia. Any redundancy of the pendulous fat in the abdominal wall may be removed at the same time and greatly to the comfort of the patient. This I have done several times.

When, however, the opening is large it can be more easily closed by overlapping the structures from above downward and thereby obtain a very strong abdominal wall. But let me suggest an additional step which furnishes more strength to the umbilical region. That is to slit open the sheaths of the recti and bring them nearer together over the overlapped fibrous structures. This will leave these muscles in a position to protect by their contraction a weak place during sudden increased intra-abdominal pressure.

While I agree with Dr. Murphy that it is not a good thing to constrict the abdomen, still I should be inclined to attribute the cause of death in his case as due to something else.

DR. WILLIAM J. MAYO, Rochester, Minn.—In answer to a question I will say that we have removed the fat in two cases. I feel somewhat overcome by the remarks of Drs. Ochsner

and Murphy, and I think we must all take them as a joke. Dr. Ferguson has insisted on saying that this is the Mayo operation. My own feeling is that all this stuff about priority is bosh. I have no doubt that this operation was done by Hippocrates; he was a very sensible old fellow and quite likely, as they get in deeper in the Egyptian ruins, they will find that this operation was performed by the inhabitants several thousand years ago.

REPORT ON OPERATIVE TREATMENT OF GRAVES' DISEASE.*

T. C. WITHERSPOON, M.D.
ST. LOUIS.

CASE 1.—In April, 1895, a patient presented herself for treatment suffering from a well-developed Graves' disease. Exophthalmia was not marked, but the cardiac frequency and the thyroid enlargement was present. Tremor, loss of flesh and bowel symptoms made the case one of undoubted Graves' disease. She submitted to partial thyroidectomy under chloroform and made a nice recovery. Two years afterward I received word from her through a friend that she was well and strong, able to attend her duties and suffering none of the former symptoms.

CASE 2.—In 1898 a patient was sent me who suffered from a similar condition. She was 52 years of age, very thin, having lost a great many pounds of flesh, suffered from recurring diarrhea and was very weak, practically bed ridden. The pulse rate was 140 to 160, the thyroid very large and vascular, exophthalmia not marked. The right lobe being the larger was removed under chloroform anesthesia. There was very free hemorrhage from the inferior thyroid, and on account of pulse weakness she was given a pint of saline under the skin while on the table. This was repeated in two hours. Within six hours the pulse had regained the rate and quality which characterized it when she went on the table. During the night it began to increase in rate and lose in strength. There was no response to stimulants and in forty-eight hours she died.

CASE 3.—The third case on whom I operated was a woman 59 years of age. She was born in Missouri and had lived in St. Louis for many years. Her first visit to me was in September, 1899, at which time she suffered from very evident Graves' disease. The goiter was well marked, the right thyroid lobe being the larger, there was moderate exophthalmia and the pulse rate was from 130 to 150. She had lost a good deal of flesh, the skin was always moist because of an exhausting sweating, the nervous symptoms were marked, heard strange noises and had ideas of persecution; the respiratory movements were extremely shallow and pectorals wasted, bowels were diarrheic, urine contained casts and albumin, and was slightly increased in the 24 hour amount. A diagnosis was made of chronic interstitial nephritis associated with Graves' disease. I was of the opinion that her general condition contraindicated so extensive an operation as partial thyroidectomy and advised a double sympathectomy. September 10 the three ganglia on the right side were removed and on the 21st those of the left, under chloroform. The healing was primary and shortly after the second operation the pulse showed improvement in quality and rate. Her general condition was likewise benefited, the bowels ceased to become overactive, the sweating stopped, the weight improved. December 14 she had so far recovered that she took a trip into the country to take advantage of the fresh air and outdoor life possible there. From her son I learned later that in the latter part of the month of February while out riding she became chilled and died two hours afterward. He states the pulse rate had become normal before her death, the exophthalmia had almost entirely disappeared and the goiter fully half. Her mental condition was normal and the nervous symptoms had cleared up to a large extent. What part was played by the nephritis in her sudden death can, of course, be only a matter for conjecture, but it must be admitted the operation was followed by decided relief.

During the last twelve months I have had a series of six cases presented me for operation in all of which partial thyroidectomy was performed. They were as follows:

CASE 4.—About the first of May, 1902, S. S. was sent to me with a pronounced exophthalmic goiter. She had been under treatment without benefit and an operation was advised. She was born in Germany, came to St. Louis when 16 years of age, and has lived here since, a period of 23 years. There is nothing of note in her family history. At the time of her first pregnancy the thyroids became larger and remained so afterward. There were no symptoms of Graves' disease until about a year before I first saw her. At that time she noticed an increased nervousness and rapid heart action. At the time of the examination she had a well-marked exophthalmia and stated that the intensification of the symptoms dated back five months, at which time she became pregnant. Her general condition indicated a process of only moderate severity. There was not a great loss of flesh and her appetite and strength were fair. She did suffer from a marked degree of nervousness, however, and insomnia was distressing. The pulse rate varied from 100 to 120, exophthalmia marked, Graefe symptom present, the right thyroid lobe the larger. Other symptoms were present, as tremor, sweating, headache, recurring diarrhea. She had had attacks which resembled asthma for years, and these had been intensified.

May 6 the right lobe was removed under local anesthesia. After finishing the operation and while putting on the dressing she had a slight tetanic attack, general in character and accompanied with a loss of consciousness for the moment. No ill effects followed this, and after being placed in bed she felt quite easy, except for a mild degree of burning in the area of the wound. This lasted only two hours and disappeared. The improvement in her condition was apparent in two days, and within the next week she was fairly free from nervousness. The pulse dropped to 74 in forty-eight hours. There was rapid improvement in the exophthalmic condition also. During the remaining time of pregnancy she showed only such symptoms as are characteristic of the period. She was delivered at full time of a healthy child, making a nice recovery herself. At the present writing her condition is quite normal.

CASE 5.—Mrs. B. came to me in June presenting the following history and conditions: Born in St. Louis, lived here all her life, 35 years, parents were German, she was married some years, but had no children; examination revealed no pelvic disturbance. Gives no family history which could shed light on her trouble. About nine months before coming to me she noticed the first marked symptoms of her present disease, although for some months prior to that time she had noticed an increased nervousness and a tendency to tremble when using the hands. I found on examination well-developed thyroids, larger on right side, pulse varied from 120 to 130, exophthalmia marked and Graefe and Moebius symptoms were demonstrable. The other symptoms were present, tremor of the hands, diarrheas, sweating, loss of flesh, sleeplessness, easily excited, headaches, dry hair coming out in rather large quantities. The right vessels gave both a distinct bruit. An interesting feature was the pronounced prominence of the left eye.

The right lobe was removed under local anesthesia and betterment of the condition immediately followed. At the present time all of the old symptoms have disappeared, including the exophthalmia. She has gained in flesh and feels well.

CASE 6.—In July I removed the right thyroid lobe of a patient in one of the city institutions. She presented the usual symptoms and had in addition a movable right kidney and slight uterine prolapse. After the operation she made a rapid recovery, sleeping well, no tremor and gaining in strength. After leaving the institution I lost track of her.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

CASE 7.—Mrs. W., age 62, born in Switzerland, lived in St. Louis eighteen years, was sent to me in July for an operation. There was no family history of importance except that a daughter of 36 years of age has at the present time a simple goiter. She had a goiter herself for twenty years, during which time there was no indication of trouble from it. The symptoms of Graves' disease dates from the time of the death of her child three years ago. This daughter died of tuberculosis. In January, 1902, she suffered an attack of pneumonia, from which she did not fully recover. Effusion into the left pleura followed it and on May 17 three pints of this was removed. Again on the 27th this was repeated, removing the same amount. The physician in charge at the time reported on the character of this fluid, stating it was not purulent nor bloody. The expectorate was likewise examined and found to contain no tubercle bacilli. At this time the symptoms of Graves' disease became very pronounced. The tremor marked, muscular weakness with emaciation sufficient to cause her to remain abed, insomnia, emotional perturbations, pulse varying in rate from 135 to 160, and frequent diarrheic attacks. The exophthalmia was not readily noticed unless attention was called to it.

The right thyroid lobe was the larger, and this one was removed July 20. It had grown downward into the chest behind the sternum and was adherent to the trachea for a short interval. The vessels were very friable and the forceps pinched through the inferior thyroid during the operation and bleeding became very active. This necessitated a haphazard catch, which included the inferior (recurrent laryngeal) nerve. Immediately a fluttering vocal cord was the result. In tying the vessel after stopping the hemorrhage it was carefully separated from its surroundings. The voice returned very slowly afterward, never to its normal quality. A pneumonia was set afoot, which appeared on the fifth day in the left lung, the seat of the former attack. Eventually this subsided in part and the patient began to improve. A careful examination still failed to reveal tuberculosis. In six weeks the nervous symptoms had nearly disappeared and the rate of heart action was between 90 and 100. There was a slight, constant fever and cough and the fluid reaccumulated in the side. On aspiration this was found to be purulent. An operation was strongly advised, but refused until late in October. By this time she had lost the flesh gained just after the operation on the thyroid and was very weak. The process had extended to the lung and a large quantity of stinking pus was being expectorated constantly. A portion of rib was removed under local anesthesia and a drain established. She never rallied, however, and died about Christmas last. There was a complete disappearance of those symptoms which were distinctly characteristic of the Graves' affections before her death.

CASE 8.—A widow, aged 44, born in Germany, came to St. Louis 16 years ago. She has one living child healthy. She gives no history of former trouble which could bear on the present trouble except that 18 years ago she contracted a venereal disease from her husband which confined her to the hospital for several months. The cervix of the uterus is entirely gone and a small opening in the midst of scar tissue is the os uteri. Menstruation is normal except scant in amount. She gives no history of syphilis. Her pulse varied from 95 to 110, some degree of exophthalmia, goiter goose egg in size, the right lobe the larger. A fine tremor, muscular weakness, diarrhea, sweating, nervousness, sleeplessness, headaches were present. I removed the right lobe of the thyroid in September. The pulse rate became normal after the operation, the general condition improved and the tremor left. She still suffers, however, from headache, fullness in the throat and complains of weight in the pelvis. This, I believe, is due to the uterine condition.

CASE 9.—Just operated on. Patient is 29 years of age, born in Kansas, and has lived in various parts of the country during the last ten years. Of herself she writes the following history, and because of its exactness I give it in full. Rather anemic looking since fifth year, scrawny shoulders and small arms. All through life frequent headaches in forehead. In sixteenth year moved to Colorado, living in altitudes of from 6,000 to 9,000 feet, where was employed as a railroad clerk for three years. Felt well greater part of the time. Eyes would occasionally become inflamed; riding on trains augmented this trouble. Vision was not impaired for three years after first inflammatory attack. About twentieth year moved to Memphis, Tenn., eyes becoming more often sore. Oculist advised against glasses and used some drops in eye for two months daily. Vision now became impaired, objects blurred, lines of type ran together. Saw another oculist, who fitted glasses, said trouble was flattened cornea. Wore these glasses with some relief for about a year, eyes gradually becoming worse; inflamed with imperfect vision. In twenty-fourth year another oculist fitted glasses, saying the trouble was compound myopic astigmatism with the consequent inflammation. Great relief followed; worn the glasses since with improved visicn, inflammation lessened. Past three years has had many spells of aching back of left eye and followed by reddened conjunctiva. About the twenty-fourth year hand became unsteady when writing. During the summer months each year while in Memphis got debilitated and irritable. During the winter of the twenty-fifth year worked all day and until 11 o'clock at night. Kept up by large quantity of alcoholics. In spring of same year, 1899, passed first-class examination for old line life insurance. No enlargement of neck was noted at the time. Pulse was a trifle quick, attributed to running up stairs. During the summer became gloomy, brooded over unfair treatment thought she had received at the office where working. Spent month of July in St. Louis, read much pessimistic and agnostic literature. Thought a great deal about suicide, did not contemplate suicide, but the subject was more attractive than others. Returned to Memphis August of the same year in the same state of mind. Friends tried in every way to divert her mind into new channels without success. Again worked hard the fall and winter of the twenty-sixth year. Gradually mind became normal. December, 1899, noticed neck seemed to look too full in front, friends thought it was all right. In winter was tired all the time, sore and ached all over on awakening; very nervous and irritable. Hands and feet became swollen and red, burned and itched when taking exercise. For last three years perspired profusely on slightest exertion. Hands and face would be moist and clammy while those about were dry and comfortable. Did not sweat at night when quiet in bed. Hair became faded and dry, but did not fall out to any appreciable extent. During the summer of 1900 lost much flesh and became more nervous and weak. In the fall some improvement.

About Jan. 1, 1901, noticed rapid heart action and shortness of breath. Remained in bed for a part of February complaining of prostration, nervousness and insomnia. At this time the goiter became quite perceptible. Dr. R. Maury prescribed tr. iodin applications without benefit to the goiter. Massage was then resorted to for a month with no benefit. If anything this last increased the nervousness. The professor of nervous diseases at the Memphis Medical College then prescribed Norwoods tincture of veratrum viride, to be taken constantly and a mixture of hyoscyamus, potassium bromid and chloral to quiet. This latter was taken at bed time for two years. For the remaining time the bromid alone has been used to produce sleep (60 to 100 grs.).

Exophthalmia was noticed in June, 1901. At this time she gave up all stimulants, as they caused a sense of weakness and she had to go to bed after taking them. Later in same summer went to Lake Superior for a visit and improved remarkably, gaining 18 pounds. In fall relapsed into old condition on returning south. Complained at this time of having both knees give away while walking, causing her almost to fall at times. Arms and legs became numb after resting in one position for a while. Last summer spent at Put-in-Bay, but an exhausting diarrhea prevented improvement.

In fall went to Colorado, where nervousness and rapid heart increased and mental condition became worse than ever. Had maniacal spells, screamed, tore clothing and refused to remain in the room with any one. Physician in charge gave thyroids and strychnin, and if anything the symptoms were

intensified. Pulse was frequently as high as 150 and felt like a pile driver in the neck. Thyroid increased in size. Took 400 grains of bromid in two hours to quiet. Later returned to the chloral mixture and a tonic. During the last three months suffered from alternating diarrhea and constipation. Appetite fluctuated from a craving for food to a distaste for it. Limbs twitched in bed and insomnia continued. Sore around body and hung clothes from shoulder; temperature of 99 to 100 in the late afternoons. Has a cough which developed in December, 1901, and has continued more or less ever since. At menstrual periods the gland seems to become turgid and causes a sense of choking from pressure.

The only family history which could bear on this condition is on the mother's side. She had asthma until her sixteenth year, always had an affection of the right side of the mouth and jaw. Right lobe of thyroid slightly enlarged and had been so from childhood. Never had the other cardinal symptoms of Graves' disease. Mother of seven children, three died in infancy; one son and three daughters are living. Son as a chi'd suffered from nervous twitching, is now 40 and healthy; daughter, aged 32, has writer's cramp at present, always nervous. Other daughter always free from nervousness. Mother in good health at present.

July 15, 1903.—This patient is in better health than for some time. Exophthalmia gone. Pulse 80 to 90.

These cases of Graves' disease have been in the past most unsatisfactory to treat. Nearly every effort to bring about permanent relief has been fruitless. We have all seen temporary benefit follow the administration of different remedial agents, and have been at times tempted to believe that much of permanent character had been accomplished, only to be disappointed later when, after losing sight of the patient for a while, they would return in a more deplorable condition than ever. Failure in this disease has, as in many other maladies, led to the adoption of a host of remedies for its cure.

It is exceedingly interesting to follow the views of the various writers of the different decades on the subject, and note the changes in the methods of treatment. We read of the disease being a dyscrasia, then, again, a blood impoverishment expressing itself by changes in the thyroid, eyes and heart; later the opinion of alimentary intoxication, a sympathetic disease or a pathologic condition of the central nervous system located in the area of the pons or medulla. Of the recent authoritative writers Moebius adheres to the belief that the seat of the lesion is in the thyroid gland, while Kocher, of Berne, considers the thyroid condition an expression of a central lesion located in the cerebrospinal axis. Mention should be made of the work done by Gley, of Paris, showing a disturbed parathyroid relation with the thyroid as a possible cause of the disease symptoms. As from time to time new light has been shed upon the subject, bringing modified ideas of its pathology, the methods of treatment have accordingly been modified or changed altogether. Iodin, strophanthus, veratrum viride, bromids and chloral, galvanism, thyroid extract, adrenalin, sodium phosphate, sodium salycilate, dietetic regulation, massage, the serum of thyroidectomized goats, the flesh and milk of these animals, and lastly, various surgical procedures, have each been advocated as most helpful.

Naturally, the question arises, what are we to do for, how are we to relieve this class of patients when they come to us for relief? Is there an underlying cause for the condition which can be attacked alike in each case, is there a procedure which could become universally applicable? In the light of our present knowledge we can not hold to too strict limitations, though no doubt were the exact nature of the disease known some rule of action would become applicable to all cases. At the present time a certain degree of empiricism must enter into the treatment; our conduct toward these cases must rest to a large extent on our experiences in the past. We must notice where the internist obtains good results, and weigh carefully the data he presents; likewise have we to consider the surgeon's side of the question, and noting here success and there failure, obtain an explanation of the different results by the different manners of operation, and the individual characteristics of the patients.

I present here the results which I have obtained in cases in which internal medicine failed to give relief. The outcome has been very satisfactory to me, and has helped very materially to lead me to the belief that these cases are eminently surgical. Since reading Kocher's article, this belief has been confirmed, and I feel enthusiastic in supporting proper surgical methods for the relief of Graves' disease. Of course, do not understand this to mean that I advocate operation in every case, regardless of all conditions, local or general. In the first place, we must be governed by those rules which are followed in advising operation on any part of the body for the various conditions which fall to the surgeon's hands. In the second place the symptoms which characterize Graves' disease must be given due consideration, and proper value placed on the conditions which characterize each individual case.

A number of surgical procedures have been proposed. The injection of agents into the gland which tend to destroy its secreting power is dangerous, and should never be resorted to.

Ligation of the thyroid arteries to reduce vascularity of the gland has a warm advocate in Kocher. This method was recommended by Woefller for the common goitre, but Kocher put it to use in the exophthalmic variety. Rehn, Trendelenburg, Rydygier, Wilmers, Reinbach and Mikuliez have reported cases treated in this way. Ligation of the superior thyroid is relatively easy, but the inferior can not be gotten at through an incision in front of the sternocleidomastoid, except by luxating the gland upon the surface, in many of the cases. In selecting the vessels, attention will be paid to the amount of vascular degeneration of the different parts of the gland. It is rare that the whole gland is alike affected. Those vessels are ligated which best control the vascularity. The operation is simpler than removing the lobe, and is to be recommended in those cases where the symptoms remain intense after resting the patient. Later, however, this procedure should be supplemented by a partial thyroidectomy in the large percent of cases. The initial ligation always renders the removal of the lobe easier than where this is done primarily.

Unquestionably, the operation which gives the greatest degree of satisfaction is the removal of the most involved lobe of the thyroid gland. Very frequently this is the right. Why this should be so is difficult to understand. Many explanations have been given, but none satisfactory. Two incisions are to be recommended, one in front of the sternocleidomastoid parallel to its anterior border, and the U-incision recommended by Kocher with the convexity over the sternal notch. Kocher recommends the latter because it allows easy access to the median line, where after separation of the muscles which lie upon the trachea the thyroid lobe can be readily reached. This avoids cutting any of the muscles of the neck. The scar is low and not readily seen. Personally, I prefer the incision anterior to the muscle edge. The length need never be more than 4 inches, and it allows the least bloody handling of the gland. The one objection to the incision is that it necessitates the cutting of

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some fibers of the sternothyroid or the sternohyoid. This is inconsequential, for the fibers of these muscles run nearly enough parallel to allow of separation directly through their bellies, and only a few fibers of the one or the other have to be cut at the ends of the incision. This opens the field perfectly for the largest goitre I have had to deal with. The scar is small and located in an anatomic position which to some extent renders it less apparent.

There are some precautions to be mentioned. The capsule of the gland is usually adherent to it, thickened and very vascular. In separating it from the enclosed gland a very considerable amount of hemorrhage follows. This is avoided to a certain extent by ligating the superior thyroid artery first. Just under the muscles, coming from above and entering the top of the gland, this vessel is easily found. It frequently enters as several branches, and care must be exercised to ligate all of these if the main trunk can not be gotten at. The next difficult step is securing the inferior thyroid artery. This can only be done after raising the gland from its bed and carrying it toward the median line. The whole vascular apparatus is so friable that it is possible that some vessels of size be torn in this separation and bleeding hard to control. To render this less difficult, bring about very careful, gradual luxation, catching each bleeding point with a forcep as it occurs. After reaching and ligating the inferior thyroid all forceps can be removed, as these two vessels supply the area with blood. It is wise to ligate the large veins, however, for, though forcipressure suffices to check their bleeding for the time, their lumens are apt to open later and allow of a large clot formation in the wound. A very difficult point in the operation is catching hold of the highly vascular gland with any instrument with which to hold it. Vulcella forceps tear out and cause very serious hemorrhage. I find it expedient after exposing the anterior surface of the gland, to pass heavy mattress stitches of silk from side to side, and when these are tied the forceps catch better, and bleeding does not follow any little glandular laceration. Great care must be used in avoiding the recurrent laryngeal nerve, while dealing with the inferior thyroid.

This operation should always be performed under local anesthesia. Kocher recommends a 1 per cent. solution along the line of skin incision. I prefer a 0.125 per cent. solution. It is incorrectly stated that there is no pain after reaching the deep structures of the neck. These patients, very nervous and strung to a high pitch by the thoughts of the operation, do complain of pain in handling the deep structures, and are more readily controlled when the whole area is infiltrated. Eucain, being non-toxic when used in reasonable amounts, can be freely injected in very dilute solution. Infiltration is made between the gland and its capsule just ahead of the separation. I have never required more than ½ gr. of the drug to complete the entire operation. It is wise to reinfiltrate the skin before attempting to stitch the wound. All ligatures are made with a fine silk. I have not drained my cases. At one time there was a fear that the secretion expressed during the operation into the wound, and that formed and given off from the cut surface afterward were dangerously toxic. Drainage allowed these to escape, and therefore was recommended. There is some danger from the bleeding into the closed wound afterward, this causing suppuration and septic symptoms. A twelve to twenty-four hour drain is allowable when there is likelihood of much oozing.

Socin proposed the excision of enlarged nodes. This is not to be recommended, as it is incompetent and bloody, and many thyroids are uniformly degenerated. The Mikulicz operation, proposed for the ordinary parenchymatous goitre, has been resorted to in some cases of exophthalmic goitre with double enlargement. This operation consists in exsecting a portion of each lobe. This is too bloody to be recommended. A ligation of both superior thyroid arteries and a later removal of one lobe will accomplish more, and is more readily performed.

Jaboulay's operation of exothyreopexy is not to be recommended. The process of healing is too tardy, and the benefit not as assured as by either the ligation of the vessels or the partial removal of the gland. I do not know that this method is being adopted by any other than Jaboulay.

Lastly, I shall mention the operations on the sympathetics. Surgery of the cervical sympathetics had its initiative with Alexander, of Edinburgh, who resected the superior ganglion on both sides for epilepsy. This was in 1889. Jonesco, in Aug., 1896, resected the superior and middle cervical ganglia for Graves' disease, and the operation has since borne his name. A Russian surgeon by the name of Barocz proposed the operation as early as 1893. In my one case for exophthalmic goitre the operation was done in two sittings. The incision being made along the posterior border of the sternocleidomastoid. It can be readily done under eucain anesthesia.

Whatever the operation performed, general anesthesia should not be used. The myopathy and the vaso motor disturbance makes it exceedingly dangerous. This caution against general anesthetics holds also where the operation is for some other purpose than to relieve the symptoms of the exophthalmic goitre. Strange to say, the condition which follows operation upon these cases under general anesthesia is alike, whether done for the relief of the goitre or for other purposes, indicating that handling of the gland is not an explanation for it. I recall a case in which I used general anesthesia in the currettement of a bleeding uterus, following an abortion, in which all other means had failed. For two days following the operation the pulse rate was between 190 and 210. Eventually, she recovered from the immediate danger, only to succumb to an enteric attack later.

An objection to the use of cocain based upon the report of Riviere and Edmunds is not well taken; they assert the symptoms of cocain intoxication correspond to those of Graves' disease. Even if so, I can not agree with those who consider a unity of action in the two cases. However, in using eucain anesthesia, the amount of the drug is too small to produce additional intoxication.

The results from operative treatment of Graves' disease have been, on the whole, gratifying. Naturally, they vary somewhat with different operators, and also with the character of operation. Mortality has been surprisingly low; in 1896 Starr gave a record of 190 cases collected, with a mortality of only 12 per cent. Kinnicut the same year presented the record of 187 cases with 7 per cent. mortality. Schulz records 20 cases without mortality. The most valuable record of the present time comes from Kocher, of Berne, in which he had four deaths in 59 cases operated upon by himself. In these, the operation could not be held entirely responsible. Ligation had in the past a larger per cent. of mortality than thyroidectomy, but there should be no reason for this at the present time. In the group of cases

I present, the one death was undoubtedly the result of having given a general anesthetic.

The relief of the symptoms of Graves' disease has been gratifying. A fair average for the cures from operative procedures during the last ten years may be stated as 60 per cent.; of decided benefit 15 per cent.; and of deaths and failures, the remaining. In the 7 cases surviving the partial thyroidectomy performed by myself, the symptoms in all practically disappeared. Betterment was noted in all but one within forty-eight hours. The continuation of a high pulse in Mrs. W. was due to the pulmonary complication. Nervousness in each case disappeared almost completely before leaving the hospital, with the exception of the last case operated on but a few days since.

In one of my cases the nerve was injured by being grasped by forceps, and though the ligature was put about the vessel afterward, in such a manner as to avoid including the nerve, the voice was never quite normal afterward. Two of the cases had a slight tetanic convulsion immediately following the operation, but recovered as speedily as the others, without apparent ill effects. Mrs. B. had an interesting condition in that the right lobe of the thyroid was the larger, while the left eye was most protuberant. Exophthalmia in her case disappeared entirely after operation. Case S. S. carried her child to full term under a far more comfortable condition than was possible without relief of the exophthalmic goitre symptoms. After the operation certain symptoms may continue for a longer or shorter time before disappearing. The most persistent of these is the exophthalmia. In my cases ocular co-ordination was one of the first noticeable benefits. The physchic disturbances which follow, I believe, may be attributed to an infection of the wound in the majority of cases. This is illustrated by my last case. Three days after the operation she sat up, declaring herself better than for sometime. Her pulse and nervous symptoms certainly indicated this. On the sixth day she began to complain of pain in the area of the wound, which was the result of a slight inflammatory reaction. After that she became extremely irritable, taking marked dislike for her nurse. In her case the whole of the left thyroid was removed, with the exception of a small portion of the upper end, containing an apparently normal para-thyroid.

The question arises did the presence of the para-thyroid produce this excitation, or was it septic? The removal of the para-thyroids in animals gives rise to symptoms like those of Graves' disease, but I am at a loss in the absence of the thyroid proper to account for the presence of these bodies producing any such effect.

The character of the gland changes differed in the various cases. Vascular degeneration was apparent in all, but in many there were primary conditions not related to the exophthalmic goitre, and in some, undoubtedly secondary changes, consequent upon the marked vascularity of the thyroid.

As time will not permit a discussion of these differences in detail, I shall have to present them in a later paper.

DISCUSSION.

DR. W. W. GRANT, Denver—I have had no experience, whatever, with the operation for the treatment of exophthalmic goiter. The operation is more particularly appropriate to certain cases of traumatic epilepsy and glaucoma. Kocher, in 200 or 300 operations performed during the last two or three years, has used a solution of cocain. He has abandoned the use of general anesthetics, because of the unsatisfactory results, one of which is vomiting, which may occur during the progress of the operation, and if any surgeon attempts to perform this operation on a reasonablly large tumor, and particularly on a vascular one, without due consideration of the difficulties and complications that may arise, he is liable to a rude awakening. I have performed only a few of these operations, but I invariably open the capsule. It is much easier to make the incision through the skin, dissect from the tumor, and then open the capsule. It is much easier to ligate the arteries, and the operation can be done much more quickly; and this is an operation demanding all possible celerity. I had a case two or three months ago, the largest of these tumors that I have ever removed. It occurred in a woman 40 years of age, and the tumor had existed for twenty years. Whether or not we can explain it, it is a fact that the condition of many of these patients, although seemingly good, is not so in reality. They have but little resisting power. They succumb to the slightest hemorrhage as well as to anesthetics, their condition becomes alarming at times during the most critical period of the operation. After opening the capsule I had no difficulty in ligating the inferior thyroid vessels, but in separating the tissues for the superior thyroid I opened a sinus with the finger and a blood stream came out, which, it seemed, was as large as the little finger. It was quickly arrested, and although but a small amount of blood was lost, it was noticed that the patient was in a state of collapse. I proceeded with the operation, while assistants used restoratives and the patient recovered quickly, and her convalescence was uneventful. I always prepare the patient for such an operation. I insist that the patient should remain in the hospital for three or four days (or a week or more) and use 1/30 of a grain of strychnia three or four times a day. I have found this to be very useful. If necessary, atropin may be administered before the operation as a heart tonic. I have found it very appropriate in these cases. The amount of cocain which Kocher uses is a 1 to 2 per cent. solution, but I have not employed it because I fear its effect on the heart, especially in large tumors. I have used chloroform, but fear general anethesia also.

DR. EMMET RIXFORD, San Francisco—Goiter is a disease which produces fearful suffering to the patient, and whether we can cure those patients by operation or not, we are doing a tremenduous service to them, if we can alleviate their symptoms. But the operative treatment is not so simple as it may appear. The problem is an extremely difficult one. Exophthalmic goiter may be said to be of two sorts, primary exophthalmic goiter and secondary exophthalmic goiter. By the latter I mean those cases in which the disease or symptoms supervene in the presence of existing goiter, and prognosis from operative procedure is infinitely better in the latter class of cases. In these cases there is very often an encysted thyroid adenoma, which is the seat of the goiter. The operation is much simpler in those than in the so-called primary exophthalmic goiter. It simply requires the removing of the adenoma, if the capsule can be identified. The operation should be undertaken with the greatest caution in those cases in which the heart shows degeneration. Confidence is of the greatest value to such a patient, and he should be made to rest and become accustomed to the surroundings in the hospital, mental as well as physical preparation for the ordeal being necessary. The greatest danger, as Kocher has definitely demonstrated, is the anesthetic. I have seen the greatest trouble from an anesthetic, the heart beating faster and faster until it reached 200, then 300 per minute, and finally became too fast to be counted. These patients perspire tremendously. They do not stand antiseptics well, and they should be used with the greatest caution. They do not stand sepsis well and, therefore, the greatest care should be used to have a perfect technic. I have operated on four cases of exophthalmic goiter, protecting the wound by a piece of sterilized cloth around the neck, and held up by uprights at the end of the table, so that the patient cannot see the hemorrhage, and so that he could not see what was going on. The sight of the forceps and instruments, etc., increases the nervousness of the patient. I employ 1 per cent. cocain as a local anesthetic. I prefer to make the transverse incision where the tumor is not very large, principally because of

the cosmetic effects. Women are much more likely to have this condition than men, and the transverse incision can be made very low down and the scar can always be covered by a bit of ribbon. The vertical scar always sticks up above the collar. The incision along the sternocleidomastoid always gives more room and where the tumor is large, it is the preferable operation. I was interested in hearing Dr. Witherspoon speak of opening the posterior fascia of the neck and enucleating the tumor. Kocher speaks of cocain being of assistance. In my last case that I operated on I thought that it was so simple that I could remove it without much of a wound. I did not draw the gland to the middle line, but worked from the outside. I passed the ligature around some vessels and the man indicated that he could talk. The ligature was removed and the man has since recovered his voice. As to the relief of these exophthalmic symptoms, in certain cases, it is wonderful and often immediate. I had one case that had been having from fifteen to twenty passages from the bowels a day. She suffered from profuse perspiration, the sheets had to be changed several times during the night. The patient did not expect to recover; in fact, she preferred to die. Within a week from the time of the removal of the thyroid adenoma she had lost thirty pounds in weight. She had been practically bedridden and unable to walk more than half a block before the operation, but within three months thereafter she had ridden a bicycle twenty miles over a rough country road.

DR. J. SHELTON HORSLEY, El Paso, Texas—I think we can not determine the proper surgical treatment of this condition until its pathology has been more definitely settled. There are two theories; one is that the disease is due to morbid impulses originating in the medulla and sent out over the sympathetic nervous system, the excess of thyroid secretion being due solely to these impulses. The other theory is, that the disease is caused by an excess of thyroid secretion in the blood, which acts on the nervous system. We know that in cases of exophthalmic goiter there is nearly always present an excess of thyroid secretion. However, this is not universally true, for some French surgeons have observed this disease in cases in which the thyroid gland had been previously removed by operation and in cases in which it was apparently congenitally absent, or at least so small as to escape detection. These facts have been very well brought out by Dr. Alfred Gordon, of Philadelphia, in a paper in the *Philadelphia Medical Journal* a few years ago. If this first theory is correct, Jonnesco's operation is unquestionably the correct procedure, as it permanently interrupts these impulses by taking out all of the cervical sympathetic ganglia. If, however, the second theory is correct, Jonnesco's operation is clearly inapplicable, and the only logical procedure is excision of the thyroid gland. As these two operations are founded on pathologic theories that are diametrically opposed to each other, it does not seem proper to use indiscriminately either the Jonnesco operation or excision of the thyroid, depending on whichever may be easier performed in a given case.

About three years ago I operated on a case of exophthalmic goiter having all the classical signs and symptoms of that disease. I did a partial Jonnesco operation, removing the cervical sympathetic ganglia on the right side of the neck. I intended removing them on the left side also, but the patient's condition forbade it, as her pulse was about 200 when the right side was finished. The operation was reported in the *Annals of Surgery* about eight months later, as it was one of the first cases in which the Jonnesco operation for exophthalmic goiter had been done in America. At the time of the report, she had improved wonderfully; pulse was 100 and she had gained in weight more than 30 pounds. The swelling in the thyroid, however, had not perceptibly decreased. Soon after this time, the patient began to get worse, and is now in the same condition she was in when first operated on. A second operation for removal of the ganglia on the left side of the neck, though proposed, has been rejected. It seems that cases of exophthalmic goiter may be cured, or at least relieved and improved, by either Jonnesco's operation or excision of the thyroid—operations which are founded on entirely different pathologic theories. It has occurred to me, in view of the improvement and subsequent relapse of my case and after reading the literature on the subject, that operation may have the same effect in exophthalmic goiter that is attributed to trephining in epilepsy. In other words, any operative procedure that is sufficiently severe to affect profoundly the nervous system, may result in relief of this disease, just as epilepsy is often apparently cured by simply trephining.

DR. T. C. WITHERSPOON, St. Louis—In regard to the indication for operation in exophthalmic goiter I believe that these cases should first be subjected to internal medication and then, if that fails, we should operate. In regard to the last Jonnesco operation I am not in a position to express an opinion on it. I was not gratified by the results obtained in these cases. I have not done it in exophthalmic goiter but once, but I have tried it three times in epilepsy and in none of the three cases did I secure results that were very gratifying. The one important thing that I want to speak of is the giving of a general anesthetic to these patients. We should not forget that when they are operated on for removal of the thyroid or for any surgical condition whatever they suffer tremendously from the effects of a general anesthetic. I remember a case I had in which the pulse was from 140 to 150, and I gave chloroform to allow of uterine curettement, and her pulse ran up to between 190 and 220, but she ultimately recovered from this condition. A general anesthetic is dangerous, and those who operate under general anesthesia are going to obtain poor results. In the next place those gentlemen who prefer simply to deal with the gland by primarily shelling it out I think are going to regret it some day. You should tie the blood-vessels early. There is but one way to tie them, and that is to get back of the fascia. If you get back of the fascia above the gland and run your finger behind the gland you can separate the carotid sheath and vessels from the gland, and render ligation and separation of the structures easy. I had one case in which a portion of the gland had grown down back of the sternum and another in which the gland was very deep in the neck, so that they are very different in shape and can not be dealt with alike.

PATHOLOGY AND TREATMENT OF SMALLPOX.

AN ANALYSIS OF OVER TWO THOUSAND CASES AND OF FIFTY AUTOPSIES.*

NELSON D. BRAYTON, A.M., M.D.

Assistant to the Chair of Dermatology, Syphilology and Clinical Medicine and Demonstrator of Bacteriology in the Medical College of Indiana.

INDIANAPOLIS.

CLASSIFICATION.

It is not my intention to discuss in detail the problem of the pathology of smallpox, but only to utilize in so far as practical the knowledge acquired by personal observation and autopsy in the treatment of this disease. The subject of the pathology of smallpox is in itself one of large scope and bearing, and worthy of single effort. Inasmuch as the tendency of medicine at the present day is to build the treatment of disease on the knowledge acquired of anatomic defects, it seems consistent to group the two headings.

The pathology of smallpox comprises at least three distinct considerations: First, the conditions arising from the poisonous influences of the variolous contagion itself (mainly purely speculative and relating to black smallpox). Second, the conditions arising from the maturation stage; and third, the incidental complications and sequelæ. In the latter class are considered boils, abscesses, phlegmonous conditions, erysipelas, the eye symptoms and the accidents to pregnancy.

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While it may be impossible in many instances to draw any line of demarcation between any or all of these conditions, it is well to have some basis of division, in order to more perfectly understand the clinical feature or features of the disease. Likewise, different varieties of the disease must be recognized and classified. I have unhesitatingly adopted the classification of Osler as the best and most perfect I have yet seen. His five distinct varieties of the disease are arranged as follows, and now form the generally recognized classification:

Variola Hemorrhagica.
- (a) Purpura variolosa; "black smallpox."
- (b) Variola hemorrhagica pustulosa.

Variola vera.
- (c) Variola confluens.
- (d) Variola discreta.
- (e) Varioloid.

THE PATHOLOGY OF PURPURA VARIOLOSA.

But little is known of this condition, the rarest of all forms of smallpox, and in itself essentially and always fatal. The awfulness of the disease impresses itself on the physician and beholder. It is distinctive from its fellow forms in that the patient dies always before the appearance of an eruption. Those who have been fortunate enough to examine these cases postmortem report abundant blood extravasations into the serous membranes and loose connective tissue of the body; into the muscles, the joints and bone-marrow. These, in conjunction with the well-known external manifestations, namely, petechiæ of the skin of the abdomen, chest and crural region and flexures of the arm, and conjunctival ecchymoses, are the main pathologic conditions.

In the one case in which I have had the privilege of an interior examination, blood was found in the vitreous humor of the eye in profuse quantity. This is the one and only condition which I am able to add to the literature of variola purpura, and which I have so far failed to find in any text-book or book of reference on the subject.

Blood examinations have been made by various observers, including the writer. So far, nothing pathologic has been determined. The blood is thin and dark, and clots very slowly. No change was noticed in the size or shape of the blood corpuscles.

The main lesion in purpura variolosa seems to be a tendency to blood extravasation, either into interstitial tissue or in or through the mucous membranes. Whether or not its etiology is that of "blood dissolution" of acute infectious diseases or of the "bacterial coagulation thrombosis" of Unna is as yet unproven. A condition of acute hematophilia exists—severe in its intensity—and its obscure etiology and exact pathology is as yet a matter of pure speculation.

Mode of Death.—Death occurs certainly from the intensity of the variolous contagion, before the appearance of an eruption, and the intellect is unclouded to the end.

VARIOLA PUSTULOSA HEMORRHAGICA.

This variety of smallpox distinguishes itself from purpura variolosa in that an eruption always develops to a greater or lesser degree. Elevation of a macule to the papule always occurs. Hemorrhage may occur into the lesion at any time in the cycle of its existence. I have seen it occur in the macule, the papule, the vesicle and the pustule. Hemorrhage may occur into the conjunctiva and bleeding occur as in purpura variolosa from the nose, mouth, arms or vagina.

Internal lesions present themselves always in the respiratory tract. These are always the cause of much distress and discomfort to the patient, and undoubtedly have much to do with the unfavorable prognosis of this division.

In contradistinction to purpura variolosa the lesions of variola hemorrhagica pustulosa appear with perfect regularity on the mucous membranes as above described. On account of the varying conditions governing the secretion, digestion and motility they never go to full development, and present themselves as small ulcers with a surrounding inflammatory base. These undergo a retrograde metamorphosis, break down and discharge a thick purulent secretion which is coughed up by the individual in the form of a thick, ropy mucus. They often heal and leave no cicatrix or evidence of former inflammation.

I have repeatedly demonstrated these lesions at autopsy, even in the smaller bronchioles.

The differential feature, then, of variola hemorrhagica pustulosa is an eruption with hemorrhage into the lesion of eruption, and not the simple interstitial or subcutaneous hemorrhage, as exists in purpura variolosa.

Mode of Death.—The intensity of the poisonous element of the contagion of variola may cause death with the early hemorrhage into the macule as early as the fourth day, or the individual may go on with subsequent affliction and perish later of complication or sequelæ. Again, he may recover. In any event, this condition is very grave, and the pathologic conditions are many.

VARIOLA CONFLUENS.

Variola confluens presents the classical clinical picture of smallpox. It is the true type of the disease. Feeling better on the fourth or fifth day of an often undiagnosed illness, the patient may notice a small macule or a small round spot on the brow or wrist. On the next day, fifth or sixth, appear many more bright red spots, with a tendency to grow hard as the day advances. These papules or pimples undergo the successive changes of vesicle and pustule. On the eighth, ninth or tenth day they may run together, producing great blebs, and the individual falls into a condition of profound septicemia from absorption of poisonous toxins elaborated in the countless pustules. Co-incidentally bacteria develop in the blood and the patient dies from profound sepsis, and often in delirium.

Extensive pharyngeal, laryngeal, nasal and bronchial lesions are always present in severe cases of variola confluens. They are often confluent, and the writer has demonstrated at autopsy lesions almost co-extensive in length with that of the trachea itself. These internal ulcers again add to the severity and distress of the patient's condition, and are a frequent cause of pulmonary complication. The author has seen frequent deaths occur as the result of these often overlooked, untreated and unknown conditions of the respiratory tracts, and believes that too much emphasis can not be placed on the consequent necessity for proper therapeusis for these untoward conditions.

Pericarditis, pneumonia, pleurisy, albuminuria, if arising during the course of the disease, present their usual manifestations, and need not be considered in detail.

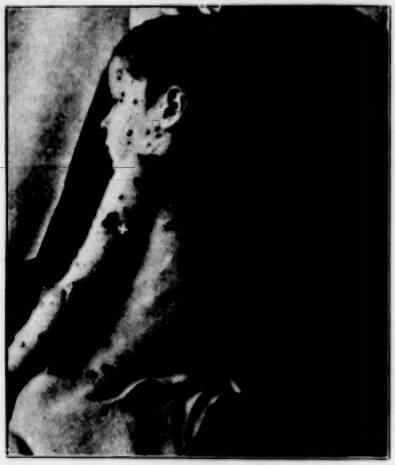
Of special symptoms, those which concern the eye are of prime importance. In former times one-half the cases of blindness were due to smallpox. In recent years, thanks to vaccination, this percentage has very materially decreased. The eye symptoms may be either extrinsic or intrinsic.

1. Symptoms in which the external parts of the eye are the seat of pustules or pocks, namely, the lids and marginal conjunctiva.

2. Where the eye or eyeball is itself involved. *a*, conjunctiva; *b*, cornea; *c*, interior of eye. The pocks or pustules appearing on the eyelid in no way differ from those of other regions, and except for their inconvenience are of no importance. Those which appear on the conjunctiva, if not adjacent to the cornea, are likewise of little import.

Those which appear on the cornea, however, have a distinct pathology, and their clinical history is often a matter of deep concern to the practitioner. Corneal ulcers appear most frequently in albuminuric patients. Rapidity of development is the characteristic feature of a variolous corneal ulcer. The pock may entirely destroy the area of the cornea on which it is situated within twenty-four hours. In such cases blindness almost invariably results.

Panophthalmitis may occur. I had one case in which I did an enucleation. Death occurred. Albumin was present in this case, as in many of my other eye cases.[1]



VARIOLA—SEVENTH DAY.

Fig. 1.—Showing the influence of the disease modified by vaccination (indicated by cross). The black spot on the arm is a taking vaccination. Below, at the elbow, is a small confluent patch. Notice the dissemination of the lesions and their limited number. From the author's wards, at North Brother's Island, New York. This child was one of a ward of children removed from the New York Foundling Hospital. The original infecting child perished. Vaccination was immediately practiced and the disease was mild in all the cases.

THE HISTOPATHOLOGY OF THE SMALLPOX LESION.

It is to Unna of Hamburg that we owe any knowledge of the histology of the smallpox lesion whatsoever. His view is that the stratum mucosum softens and becomes edematous in its upper layers. An exudate appears; suppuration occurs from secondary infection, and owing to the fibrinous material exuded from the cells, septa are formed. The exact cause of the umbilication, however, is unknown.

Following the removal of the scab a depression in the skin presents itself. Depending on the ability or rapidity of epithelialization depends the character and degree of pitting. Quick epithelialization generally means an absence of marking and the converse well-known clinical fact has long been established, viz., slow pustulation is not only dangerous to the patient, but means extensive scarring as well.

The other varieties of variola present no distinct pathologic condition not already considered.

THE TREATMENT OF SMALLPOX.

The treatment of smallpox divides itself naturally into: 1. The prophylactic treatment; 2, the treatment of the disease itself; 3, that of its complications and sequelæ. Special consideration will also be given the red-light treatment.

SYNOPSIS.

1. PROPHYLACTIC TREATMENT.
   (*a*) Isolation and disinfection.
   (*b*) Vaccination.
2. TREATMENT OF THE DISEASE ITSELF.
   (*a*) Prodromal symptoms.
   (*b*) Local treatment. Treatment with baths. Removal of pustules and opening of them to remove contents—emollient treatment—prevention of scarring and pitting.
   (*c*) Constitutional treatment; purely symptomatic and supportive, alcohol and strychnia. Ammonium compounds for throat complications. Opium for hemorrhage, and intravenous infusions for the septic and hydremic stages.
3. COMPLICATIONS AND SEQUELÆ.
   Boils, abscesses, phlegmonous conditions, erysipelas, albuminuria, eye complications, edema glotidis, pulmonary and vasculo-cardiac complications. Nervous symptoms and lesions.
4. THE RED LIGHT TREATMENT.
   A failure. Results observed in over 300 cases in New York and Indianapolis.

PROPHYLAXIS.

The prophylactic treatment will be dismissed with but a few words. In company with every other scientific mind, the writer regards vaccination and repeated vaccination as the only means of protection against the disease. I have no patience with those misguided health officers who advocate isolation and disinfection as the proper means of prevention. The city of Cleveland, Ohio, is a monument to such a fallacy. It is interesting to note that the health officers of that city who pinned their faith to formaldehyd have since retracted. The city of New York is a monument to the results which may be obtained by universal vaccination. Eight hundred thousand vaccinations in one year at public expense have abolished the disease in that city, as it will in every well-vaccinated locality.

Recent vaccination absolutely prevents smallpox. It has afforded me my only protection. During the last four years I have been mixed with every variety of smallpox, from purpura variolosa to the mildest varioloid. I have never had smallpox, and my one safeguard has been repeated vaccination. During these four years I have been vaccinated at least fifty times, two of these vaccinations being successful. Vaccination provides immunity for varying periods of time from two to thirty years or more. Neither painful nor dangerous, and applicable at all ages, from the newborn babe to those of mature years, it should be insisted on whenever smallpox is epidemic. However seemingly perfect isolation or detention may appear, whenever smallpox is prevalent they will show themselves to be defective means of prevention.

Truly, indeed, may it be said that as regards smallpox the struggle for existence is the struggle of the vaccinated. And just as truthful is the converse proposition that the survival of the fittest is the survival of the vaccinated, in which the unvaccinated perish.

THE TREATMENT OF THE DISEASE ITSELF.

Purpura Variolosa.—No observer of smallpox has as yet published a case of the survival of a patient once

1. I can not agree with the authorities in the 5th volume of the XX Century Practice of Medicine on the rarity of eye symptoms. Such statements as are made by Homer and Swanzey are certainly far from giving a correct opinion of these complications.

diagnosed as suffering from black smallpox. Awful and tragic to behold, with the knowledge back of the physician that every other case of this variety has perished, and that this one can be no exception, he may for the first time realize the horror of this disease. The intellect is generally keen to the last, and if the patient be apprised of his condition he may even give directions as regards his business affairs or to his family, even to the moment of his death.

Pain in the back is one of the most prominent symptoms of this variety. It is relieved only by morphin, generally given hypodermatically. Large dosage should be employed.

The only theoretical treatment that might seem to be of service in this condition would be abstraction of the blood in large quantity and the intravenous infusion of saline solution. In the only case in which I had an opportunity to try this form of therapy the patient died before the necessary measures could be provided for even this simple procedure.

VARIOLA—NINTH DAY.

Fig. 2.—Showing hand and arm of woman at the ninth day of disease. Notice the swelling of hand and wrist; the inflammatory zone around the vesicles; the tension in some, and the umbilication in most vesicles, and their depressed centers. Just at the lower end of the ulna is a confluent patch made up of four previously separate vesicles. From the author's cases at North Brother's Island, New York. Photographed by Dr. S. Pollitzer.

Variola Pustulosa Hemorrhagica and Variola Confluens and Discreta.—Prodromal symptoms may be treated in the usual manner. The use of opiates and laxatives with baths for the fever and delirium is to be encouraged.

In case of marked epistaxis, or hemorrhage from the mouth, anus or vagina in the hemorrhagic type of the disease, recourse should be had to large doses of opium. Tincture of opium or powdered opium should be given unstintedly. The author has never seen good results follow the use of the various salts of iron. Unpleasant and nasty to take, they cause the patient much uneasiness and distress. They can not substitute the somniferous effect derived from opium. Opium should be exhibited unsparingly and unhesitatingly in large doses in hemorrhagic smallpox.

External Treatment.—As soon as the eruption appears the patient should at once be given hot baths. If no tub can be provided hot packs should be substituted. These should be given at intervals of every three or four hours and continued as long as they do not enervate the patient. The hot bath promotes diaphoresis and kidney action; helps eliminate poisonous elements in the blood and has a quieting influence on the nervous condition of the patient. A sense of relief and comfort is also furnished that can not be obtained by any other means.

After the pustules have fully formed and in case resolution does not immediately occur, the pustules should either be removed or their contents evacuated. For this purpose, in cases of slow pustulation and with little tendency to resolution, the writer has frequently used a sharp spoon or curette and simply curetted away great masses of pustules. In this way many foci of suppuration are removed and the general tendency of the suppurative stage to an unfortunate issue averted.

After the removal of the pustules the patient may be given an antiseptic bath of either carbolic acid, bichlorid of mercury or boric acid. On account of the mechanical inability of any antiseptic solution to penetrate through the fibrinous exudates which compose the outer crust or walls of the individual pustules, I have no confidence or faith whatsoever in the so-called antiseptic bath treatment. My experience has proved its inutility and utter uselessness, and the mechanical features which I have already described are against even its theoretical employment.

Antiseptic baths in the treatment of smallpox to be of any service should only be given after the pustule has been incised or removed. The emollient treatment, which may be employed during the period between the baths, may consist of such simple remedies as a mild carbolic vaselin and the use of a mild dusting powder, such as boric acid.

The Prevention of Scarring or Pitting.—To a great extent this is entirely outside and beyond the power of the physician to either avoid or modify. Whatever remedies are of service in this regard must be those which possess the power of keratolization. Chief among these is the well-known salicylic acid. In 3 or 4 per cent. ointment form it causes increased epithelialization. Applied immediately after the pustule is dry enough to remove, it may, by its keratolytic action, cause enough epithelium to grow to quickly fill the pit and also stimulate the subcutaneous tissue beneath. I believe I have seen some benefit follow its use, but in well-marked cases of confluent smallpox but little can be accomplished.

Of other procedures that have been advocated, such as the use of silver nitrate stick in the pustule itself, iodin, tannic acid, etc., they are only mentioned to be condemned. Salicylic acid does all that is claimed for them and much more.

Continuous application of hot cloths to the face and protection from the air either by oils or salves during the pustular stage is also to be recommended. As soon as large scales or crusts form they should be removed and some antiseptic medication applied, followed by the use of an ointment.

The Constitutional Treatment.—The constitutional

treatment of smallpox is purely symptomatic. Control of fever and delirium by baths, of hemorrhage by opium in large doses, supportive measures for the heart, such as alcohol, strychnia and digitalis, especially in the septic stage. The diet should be liquid, mainly milk and eggnog, broths and soups. Water should be administered *ad libitum*. and the patient forced to drink copiously.

Of special symptoms to be met and receive appropriate treatment the pulmonary tract must be given special attention. It often happens that the mucous membrane of the respiratory tract may be almost entirely denuded from the teeth and nose to the finer bronchioles. We have many reasons to believe that this condition may obtain, and yet the patient may entirely recover.

In my collection of tracheæ which I have removed at autopsy I have one which shows lesions as above described, and in which the ulcers are at least four inches in length. Yet patients with known lesions of this character do recover.

It is therefore essential that something be done for this conditon. I have secured the greatest benefit to my patients through the use of ammonium chlorid and aromatic spirits of ammonia exhibited in full doses. Liquefaction of the mucus and loosening of the chest occurs, and the pulmonary action may be carried on unhindered.

The Hydremic State of the Blood.—There is but little doubt that in the full pustular stage of smallpox with co-existent sepsis, delirium and coma there exists a markedly hydremic state of the blood. Not only this, but the blood carries in solution an immense number of toxins.

To combat this condition is one of the greatest problems in the treatment of the maturation stage of smallpox. In my wards at North Brothers' Island rectal enemata-enteroclysis was often resorted to. On account of the difficulty of making the patient retain these enemata but little benefit was derived from their use.

In order to better combat this condition I have proposed and used what I consider a far better method, namely, direct intravenous infusion of normal saline solutions. Their action is to dilute the blood of known poisons (toxins or ptomains absorbed or manufactured from the pustules of smallpox) and to stimulate the heart in a period of depression owing to a decreased blood volume, and to promote excretion.

I have found marked benefit to follow their use, and believe the knowledge now given of their use is a distinct and valuable acquisition to the literature on the therapy of smallpox.

COMPLICATIONS AND SEQUELÆ.

The boils and abscesses which so frequently follow in the desiccating stage should be widely opened by free incision. Free drainage should always be secured. If deep cellulitis occurs the part should receive appropriate wet dressings and the knife be freely used. If albuminuria occurs it should receive appropriate treatment with hot packs and the diuretics; special care should be observed in regard to the eyes if albumin is once detected, and they should receive frequent inspection.

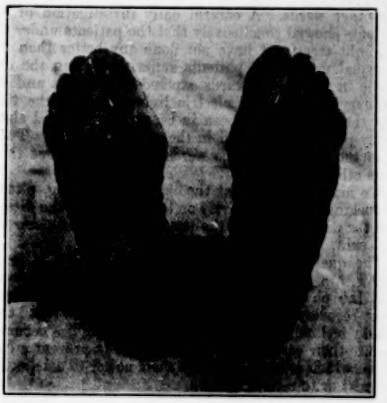
Laryngitis is a serious complication in many ways. It may cause necrosis of the larynx or cellulitis of the surrounding parts with quick edema following and death supervening. In three of the author's cases at North Brothers' Island intubation was practiced for this condition. In two of these cases it was afterward necessary to resort to tracheotomy. This quick and sudden edema is a serious affection, and its possibility must always be considered when aphonia is present in the patient.

The eye symptoms should receive appropriate treatment. Corneal ulcers should be early detected, cauterized with the silver stick direct, and then receive frequent irrigations with a mild antiseptic solution such as a saturated solution of boric acid.

Pneumonia and pleurisy are dangerous complications, and most often fatal. Pneumonia, when it occurs, is often a septic bronchopneumonia, and the pleurisy a purulent effusion. Naturally, but little can be done in such conditions. Cardiac complications are rare. The writer has seen but very few in the cases under his observation.

Diphtheria in children is a common affliction. It comes on suddenly owing to the soil already prepared for it by serious and numerous throat and nasal lesions. Antitoxin should necessarily be exhibited in large doses, and an early diagnosis is imperative.

Nervous Symptoms.—Delirium is one of the most marked characteristics of the disease. It occurs early, and is much more severe than that often met in typhoid fever. Delirium tremens is often seen in men addicted to alcohol, and is a most unfortunate complication. The



VARIOLA—ELEVENTH DAY.

Fig. 3.—Showing invasion of soles of feet at eleventh day of disease. From the author's cases at North Brother's Island, New York. Photographed by Dr. S. Pollitzer.

general run of somniferous and nervous depressants are often powerless to control the agitation of the patient, and simple restraint is the only means of service. If too wild or flighty the patient should be put in a strait-jacket and kept in restraint as long as indicated.

I have seen but two cases of insanity follow or occur in or during the course of variola. One of these was permanent.

THE RED-LIGHT TREATMENT OF SMALLPOX.

In the May 2, 1903, number of THE JOURNAL of the American Medical Association there appears an excellent analysis of the claims of the efficiency of red light in the treatment of smallpox by Dr. J. F. Schamberg. This excellent exposition of the subject by such an eminent writer is worthy of reproduction in even the popular press. Dr. Schamberg takes up in detail the history of the red-light method and shows its fallacies when applied to the treatment of variolous subjects. To all of what Dr. Schamberg says I heartily agree. Dr. Finsen was not the originator of the red-light treatment of smallpox.

John of Gaddesden, six centuries before, had used it in the treatment of an English prince, and numerous instances of its use have been recorded since. In the detention hospital at North Brothers' Island two wards were fitted up in an appropriate manner to try this form of treatment. In the Indianapolis City Hospital Detention House two wards were also fitted up to try the red-light theory.

In both of these hospitals I have had abundant opportunity to watch the effect of elaborate arrangements to try the theory of red-light treatment of the disease. With the experience of at least 300 cases I regret that I also must corroborate the results that Dr. Welch and Dr. Schamberg arrived at in Philadelphia in the two cases in which they tried the red-light treatment of the disease, and say that there is nothing in it. While it may sound well in theory, and look beautiful in practice, yet it is nevertheless true that the dead are still removed and the pitted and the scarred still recover in a red-light hospital.

In the Indianapolis Hospital suppurative fever and death have not been less in the red-light wards than in the other wards. A careful daily investigation of the patients showed conclusively that the patients under the red-light treatment have not done any better than did an equal number of patients suffering during the epidemic in four other wards exposed to sunlight and the ordinary incandescent electric light. During the time that the red light has been in use in this hospital about thirty patients have died in the red-light wards. Those from the red-light wards were as badly pitted as those from other wards.

We may conclude that the extent of scarring, pitting or pocking depends entirely on the severity of the disease and the depth to which the pustules affect and enter the true skin.

The question of the prevention of pitting is really not within the hands of the physician. It is rather that the physician and the patient should be grateful that recovery has occurred at all than that they should feel chagrin or remorse that pitting has occurred despite their earnest but useless efforts to prevent a condition which is wholly outside their power to ameliorate, to resist or to relieve.

CLINIC AT CHARITY HOSPITAL, NEW ORLEANS.

CONDUCTED BY DR. ISADORE DYER, NEW ORLEANS.

A clinic was held at the Charity Hospital, New Orleans, May 7, as a part of the program of the Section on Cutaneous Medicine and Surgery. Several cases of leprosy and other interesting skin disorders were shown and commented on by Dr. Isadore Dyer. He remarked that he made it a special point in cases of leprosy to note the effect of the disease on the face; this he believes is characteristic.

The first patient shown was a man 32 years old, who reported at the hospital first in 1897. At that time both hands and face were covered with tubercles, which were still very evident up to a year and a half ago. At the present time he is comparatively free from tubercles, though his face is scarred where they formerly existed. He has fair use of his hands, and the only actual evidence of the disease at present is in his feet. He was born in New Orleans in the district where the old leper hospital stood. Dr. Dyer remarked that whether there was any direct connection or not he is not aware; the fact is that nearly all the cases originating in New Orleans develop from that center. The patient's father was German, his mother English, and both had lived nearly all their lives in New Orleans. This emphasizes a point he had frequently remarked, that leprosy does not occur in anyone who has lived in New Orleans less than ten years. The only exception to this of which he is aware was a Norwegian, who was sent to the clinic by the U. S. Marine-Hospital Service and returned by the same boat on which he came to the city.

The treatment in the case consisted of 1/60 of a grain of strychnin with 40 drops of chaulmoogra oil, three times a day. The patient has been taking this since last December. The general condition of the skin is improved. In spite of the fact that he has advocated other lines of treatment and experimented with antivenene serum, Dr. Dyer has fallen back on chaulmoogra oil, and is inclined to agree with Bibb of Saltillo, Mexico, who says that any person who gets enough of the oil will get well, provided he has not been mutilated. The results of the Charity Hospital are in harmony with that opinion. He has two patients on chaulmoogra oil, one taking 60 drops without trouble, and a large amount of the pigmentation has disappeared from that patient's face.

Case 2 was a woman, 41 years of age, with the same disease. At first glance the diagnosis would not be clear, as there was no evidence of disease in the face. She also was of German parentage. In the reports of cases from Louisiana at the Berlin conference it was remarked that the most frequent cases were natives of Louisiana of either French or Spanish or of mixed French and Spanish parentage. This woman was born in New Orleans, in the fourth district; not the same district where the other patient was born. She has had some spots on her hands, but most are on her legs. The color has gone in a large degree. Lepers were not isolated before 1886, and the patients in the Leper Home formerly received no medical treatment. It seems a matter of conscience that patients suffering from this disease should not be merely isolated and allowed to die. Isolation is compulsory. This patient is taking only five drops of chaulmoogra oil, as that is all she can bear. The disease in her case is of five years' duration, and it is now considerably improved. She has taken the treatment regularly, but has taken the oil only in small doses.

Dr. Hopkins has charge of the treatment of the cases at the Leper Home. Out of 40 cases treated for the last year and a half two or three are nearly ready to be discharged.

The third case exhibited was a very recent one. At first glance the color is not characteristic. There is a good deal more symmetry than is usually met and the condition looks more like erythema than like leprosy. The spots are hardly marked enough for leprosy, but are all anesthetic. Those on the leg are characteristic lesions, the center being lighter. The woman says the spots on the arms and face came first. She was born in New Orleans and lived there since 1853. She lives in the third district where the old Leper Hospital was situated. The color and thickening of the skin with the anesthesia confirms the diagnosis. This case has developed within six months. Dr. Dyer referred to an error that he made before his class. A patient came in with a lesion similar to those of the patient just seen, and Dr. Dyer made a diagnosis of erythema and dismissed the case. Two weeks later he examined the patient more thoroughly and changed the diagnosis.

Cases of the tubercular type were not shown, as they go very promptly to the home. The face is usually first attacked, and it does not require that they be sent to the clinic for diagnosis. The tubercular cases are in the majority.

Beside the leprosy cases he exhibited one of cystic epithelioma. The general condition of the patient's face is better than it has been for a long time. He has had at times as many as forty and fifty tumors existing together. Most of the spots on the body have disappeared. He has been under care for more than ten years. At first it was the custom to curette the growths, but it was found that it had to be done almost weekly, and at present resorcin is being used. The interesting thing in connection with this patient is that he had an attack of erysipelas about four years ago and the epithelioma did not disappear. In private practice Dr. Dyer is using the *x*-ray in these cases with good results. In this instance the patient has had the disease for about fifteen years.

Beside these cases of herpetiform dermatitis and nevus unius lateris were shown. In the latter case the Doctor remarked he had not seen the warty type of linear nevus disappear, but

the plain vesicular type he had. He has made it a rule in infants under 6 years of age not to interfere.

Another interesting case showed the effects of Unna's thiosinamin soap on a scar caused by fire. He also exhibited cases of infantile eczema which he called reflex eczema, a term for which he has fought during the last ten or twelve years. It is most common in boy children, and disappears after circumcision. If it occurs in girls regulation of the diet seems to favor its disappearance. The chief thing is to find the cause and eliminate it, then the simplest sort of treatment is effective.

Other cases of infantile syphilis, pediculosis lesions, psoriasis and chloasma in a colored person were also exhibited.

LIMITATIONS OF NON-SURGICAL TREATMENT IN ACUTE INTESTINAL OBSTRUCTION.*

JOSEPH RILUS EASTMAN, M.D.
INDIANAPOLIS.

The term "acute obstruction of the bowel," broadly used, embraces all of those conditions, however varying in their etiology and pathology, which suddenly obstruct the lumen of the intestine to the extent of interfering with the passage of its contents. It is well known that the intestine may be obstructed by omental bands, fibrous bands, the result of peritoneal adhesions, as in appendicitis or peritonitis (*ante et post operationem*), by Meckel's and other diverticula, or at the neck of an internal or external hernia; that it may become kinked or twisted as in volvulus; that one segment of the intestine may become telescoped into a neighboring segment, as in intussusception; that the lumen of the intestine may be obstructed by gallstones, enteroliths, foreign bodies or its own normal contents; that it may be narrowed by pressure of tumors from without; that its lumen may be narrowed by benign or malignant strictures, or by the pressure of neoplasms or acute swellings arising within its own walls, and by the presence of embolism or thrombosis of the arterial or venous circulation of the bowel wall. Symptoms of acute obstruction may also develop suddenly in cases of malignant, syphilitic or gonorrheal stricture.

In all of the above enumerated conditions the obstruction may be said to be purely mechanical. Cases of apparently purely functional closure of the intestine—intestinal spasm—are recorded. Heidenhain and others report a few cases of purely spastic or reflex tonic contracture. In Heidenhain's cases, the contracture seemed to be complete and irreducible. Quintard[1] collected fourteen such cases from the literature. Quintard's list is doubtless incomplete, but nevertheless cases in which complete contracture of the intestine is thus brought about by reflex irritation must be quite rare. Perhaps operation and very careful direct ocular examination in these cases would have left fewer of them recorded as of purely reflex origin. It is well known, however, that the syndrome known as ileus, as a purely reflex phenomenon, may attend or be consequent upon torsion of the pedicle of an ovarian tumor, or pinching of the spermatic cord, and that in an inorganic or functional form it may be due to ptomain poisoning or to dysentery or other inflammatory conditions in the large or small intestine. No one knows how many cases of reflex or functional interference with the procession of the intestinal contents have been included in the list of cases of mechanical intestinal obstruction cured by internal therapy.

If a surgeon, speaking from the standpoint of a limited personal experience and observation, may assume to enumerate the forms of acute obstruction of the bowel which may be cured by internal medication, the writer would include the following: First, simple coprostasis. It should be borne in mind, however, that behind the picture of simple impaction may be hidden deep strictures benign and cancerous, or compression of the colon from without by adhesion bands, etc.; second, cases of incomplete stenosis of the small intestine from chronic peritonitis. Heidenhain states that many of these cases are cured by thorough and repeated rinsing of the stomach, the use of enemata and proper dieting; third, volvulus of less than 180 dgrees when involving the colon; fourth, reflex closure of the intestinal lumen. Medical treatment of reflex ileus is not only valid, but it is our best resource. The preparations of hyoscyamus are useful agents in this form of obstruction. A single hypodermic injection of morphin may, by one brilliant stroke, efface every symptom of a violent reflex ileus, as noted by Dr. Hugo O. Pantzer of Indianapolis. It is in ileus of the reflex type alone, however, that morphin is useful, and even in cases strongly suspected of being of reflex origin, the administration of morphin or antispasmodics should not be continued too long; fifth, functional obstruction due to dysentery or other ulcerative and irritative processes, such as ptomain or lead poisoning. In such cases the cause of the ileus may usually be removed by non-surgical methods; sixth, intussusception of the colon during the early stages.

Körte has called attention to the fact that the symptoms of incarceration of gallstones are often so similar to those of a suddenly developing ileus with obstruction of the bowel, that a mistaken diagnosis of stricture or volvulus may have been made. Celiotomy is clearly indicated in such cases. Cholelithiasis is, as is well known, a surgical disease, notwithstanding it is not necessarily fatal, and is occasionally amenable to medical treatment. The ileus produced by it should be relieved by surgical removal of the cause.

No doubt in very rare cases invagination has been reduced by the forced introduction of air into the rectum, or by high colonic injections of water, but that the vast majority of these cases must be given over to the surgeon, is, or should be, well known. A volvulus of 180 degrees in the first stage of the disease may be reduced by air or water; however, in cases of volvulus reaching 250 or 300 degrees, it becomes impossible to inject water into the closed-off segment. The stenosis is complete. No one would presume to be able accurately to estimate the amount of twisting of the bowel in any given case before operation, or to specifically diagnosticate volvulus at all. As for internal stenosis due to organic stricture, it is hardly imaginable that such a case could be successfully treated by other than surgical means, and it is generally taken to be undebatably concluded that obstruction due to bands, diverticula, strangulation of herniæ and the presence of neoplasms must be dealt with surgically.

It would be obviously very difficult accurately to determine the number and character of cases spontaneously relieved or cured by non-surgical means, since after the subsidence of symptoms and cure of the patient, the abdomen not having been opened, the nature and cause of the trouble must remain in the dark. We find ourselves here on the ground of pure hypothesis. We know how difficult it is to determine the exact nature of an

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

1. Murphy, Prac. Med. Series, 1901.

obstructing intestinal lesion by consideration of the external signs and subjective symptoms alone.

In cases of definitely diagnosticated mechanical obstruction of the intestine of any sort, there are few surgeons who, with instruments at hand, would adopt any less radical measure than that of operation. The non-operative methods of treatment may, under very extraordinary circumstances, be used in mechanical obstruction by one who, for various reasons, feels that he dare not open the abdomen. For one, however, with proper surgical means at his disposal, to stand by with folded hands, or deal with these cases by the so-called palliative means, requires upon his part a reckless degree of indifference indeed. The palliative means are nearly always ineffectual in cases of mechanical obstruction, are often deceptive in their effects, and are never free from danger.

Even very young children stand abdominal operations remarkably well, and there is no reason why a celiotomy, if indicated, should be withheld from an infant, even if it be only a few days old. Here the methods of inflation and injection are not devoid of danger. Knaggs reports eight instances of fatal injection. In seven of these ruptures occurred. In one case, that of a young infant, only nine ounces of water were injected when a rumbling noise was heard in the abdomen, which was immediately followed by death. (Maylard.)

It will appear to any one familiar with the anatomico-pathologic nature of the condition that the reduction of intussusception of the small intestine by the injection of water or air will hardly be possible after the onset of symptoms. It is doubtful whether in the adult it is possible to force water through the ileocecal valve. In the cadaver this may be done. Here the valve may leak, but it should be remembered that this phenomenon, though it may be demonstrated by the use of force in the cadaver, can hardly be produced in the live subject.

It must be conceded that in acute intussusception, the lesion being almost always in the small intestine, little can be gained by the injection of water. Irritating enemata may stimulate peristalsis in the lower intetine, and the movements may in some degree be transmitted to the small bowel. This will hardly suffice to release the intussuscepted small intestine if sufficient time has elapsed for the establishment of a clinical diagnosis. For by this time the intussuscepted bowel will have become quite thickened and choked, or even gangrenous. The employment of massage or taxis blindly through the abdominal coverings has never accomplished anything in any case of intussusception of which the writer has any personal knowledge. The toughness of the adhesions between the layers of the intussusceptum and the sheath or intussuscipiens and the rapidity of their development are extreme.

A few cases in which symptoms of intussusception had existed for from six to nine days have been, according to reports, relieved by the combined conservative methods. The Almighty only knows how many thousands have been lost through the employment of these so-called, but miscalled, conservative methods. Operation will conserve the lives of a certain small percentage of cases of intussusception. It represents, therefore, in the strictest sense, conservative treament. Many cases of successful excision of acute intussusceptions have been reported, and in many more cases lives have been saved by the employment of the at once less brilliant and less dangerous methods of operation.

A favorable result sometimes follows irrigation of the stomach and colonic injections of water, or insufflations of air. The physician permits himself to be deceived by the comparatively good condition of the patient, and operation is postponed until the patient is moribund, then an operation is allowed and surgery is charged with a mortality.

Successful treatment of intestinal intussusception is only possible by operation performed early, while tympanites is still slight and the patient is in relatively good general condition. Later, distension of the intestine becomes so great that often, with the abdomen opened, the most careful and zealous surgeon can not find the obstruction at all.

It would be well if there were unanimity of opinion among surgeons and physicians as to the proper treatment of a malady in which the mortality is not less than 75 per cent.

Laparotomy in such a case is always a dangerous operation, but the disease unoperated is distinctively more dangerous.

Nature has shown us the way to deal with intussusception. When, as rarely happens, she effects a cure, she does it by sloughing and gangrene and discharge of the intussuscepted segment through the bowel. It may seem quite superfluous for one to declare at this day the necessity for prompt diagnosis and prompt operation in cases of intestinal obstruction of this character. But the fact is that physicians, as a rule, are not promptly making differential diagnoses in these cases, nor operating them until the patients are *in extremis* with subnormal temperature, flickering pulse and abdomens blown out as tightly as a snare drum.

Already many successful operations for intussusception in young children are recorded. Karrsberg[2] operated on a boy 3 years and 9 months old, with invaginatio ileocecealis subchronica with complete success. Bryant[3] describes a case of acute double intussusception in a girl baby of 9 months, operated on twenty-four hours after the onset, with rapid recovery. A. B. Mitchell met a case of retrograde intussusception in a boy 4 months old. It was reduced by operation thirty-six hours after the appearance of symptoms and recovery followed. Wright and Renshaw[4] reported successful operation on a 3-year-old child with invagination of the appendix into the cecum, and Eve successfully operated on an intussusception at the ileocecum in a baby. Poppert of Giessen saved an 8-months-old child with intussusception by prompt operation, and Sells[5] also operated successfully on an infant 4 months old, 18 inches of the ileum having passed through the ileocecal valve. Several dozen similar cases have been reported. Northrup, on the other hand, reports relief of a child seven months old with intussusception by high colonic injections of water, and Ouvry[6] successfully treated a case of acute colonic invagination in a male infant 9½ months old by catheterization of the invaginated bowel.

The surgeon, however, will ask, with a shrug, whether these and other similarly palliatively treated cases were really intussusceptions. Relief in Northrup's case followed free movement of the bowels and the only indications of intussusception were a sausage-shaped tumor under the liver and bloody dejections.

Fitz's statistics give fifty-one cases treated without operation, with sixteen recoveries and thirty-five deaths (69 per cent.). Pilz reported in 1870 ninety-four cases in patients under 1 year, with a mortality of 84 per cent.

2. Hospitalstidende, 1896, No. 5.
3. Lancet, Oct. 12, 1901.
4. British Medical Journal, June 12, 1897.
5. Lancet, Aug. 31, 1901.
6. Gaz. Hebd., June 20, 1901.

From 1870 to 1891 135 cases in patients under 1 year gave a mortality of 59 per cent.[7] More recent statistics would show a much smaller percentage of mortality after operating, as the result of earlier and more skillful surgical intervention.

A case of invagination reported by Jaboulay[8] is instructive, for the reason that no operation was made, and the autopsy showed that surgery would doubtless have saved the patient's life. The case was received into the clinic forty-eight hours after the appearance of symptoms. There was no stercoraceous vomiting. On the following day there were bloody stools. Operation was withheld because it was assumed that after seventy-two hours the vitality of the intestine must be practically lost, and, moreover, the lesion could not be accurately located. Administration of opium was followed by improvement, then the symptoms grew steadily worse. At the autopsy on the tenth day there was found a high intussusception (about 18 inches from the stomach) which was readily released by delicate traction. The intestine was in relatively good condition.

When considering operation, it often becomes a difficult matter to determine whether a given condition of ileus has been mechanically produced, or produced by peritonitis, for it is well known that the most vicious peritonitis may proceed without fever. Lejars has called attention to the fact that tubercular peritonitis may produce all the phenomena of intestinal obstruction without the slightest mechanical obstruction being present. Here the doubt should weigh in favor of operation, for since the operative treatment of peritonitis promises relatively good results, the operation is therefore specially indicated. In point it may be mentioned that Turner[9] operated on a case of obstruction due to tubercular peritonitis with prompt recovery and rapid disappearance of the peritoneal tubercles.

Volvulus or twisting of the intestine is a comparatively rare cause of obstruction. There are, in most cases, no symptoms sufficiently distinctive to admit of differentiation from obstruction due to other causes. Were it possible to diagnosticate these cases, they would in the very nature of their development and formation lend themselves rather favorably to treatment by abdominal taxis, or if in the colon, to treatment by injection or inflation. Rigorous shaking with manipulation of the abdomen, and stimulation of peristalsis by enemata may rarely untwist the involved gut. As a matter of record, however, it is rarely indeed that anything avails in severe cases except operation, and the same rules regarding early operation should apply here as apply in cases of mechanical obstruction of other forms.

The direct untwisting of the volvulus before great thickening and destructive changes have taken place in the obstructed part is often comparatively easy. A few days will place its reduction beyond the highest skill of the surgeon.

In early operation lies our greatest hope in all cases of mechanical intestinal obstruction. Naunyn collected from the literature 288 cases of operation for ileus. From the record of these cases it appears that by far the best results were obtained after operations on the first or second day after the beginning of symptoms. Results of laparotomy for intestinal obstruction in individuals suffering from hernia were particularly fortunate. These were, of course, not cases of incarcerated hernia, but cases of ileus as the result of stasis, adhesions and torsions in the neighborhood of the hernial openings.

The reason for the surprisingly good results in these hernia cases is to be sought in the fact that the operators knew where to look for the obstruction, and operated early. This fact forcibly impresses one with the value of accurate localization of the obstruction before operation, and early operating. The fact seems to stand forth in very clear light that in all diagnosticated cases of mechanical obstruction, and all cases in which there is doubt as to the nature of the obstruction, the so-called conservative methods, the administration of morphin, stomach lavage, injection and inflation of the colon are not only almost valueless, but often really dangerous. Morphin is especially treacherous. In giving it we "fall back upon the soft pillows of Providence," in most instances stultified and deceived, awaiting the messenger with the inverted torch.

In paralytic reflex ileus following abdominal operations, it must be conceded that the expectant plan of treatment is the better to follow. Unfortunately, it is not easy to distinguish this form from mechanical ileus; moreover, the former may develop into the latter. Here, again, doubt must weigh in favor of operation.

Post-operative adhesions producing obstructions must be dealt with promptly by reopening of the abdomen. In such adhesions are assumed to be present when oil and salts in generous doses fail to pass the intestine, and high colonic injections administered by one who really understands how to fill the colon with water fail to give relief.

The value of laparotomy as a purely diagnostic measure should not be underestimated. Notwithstanding Treves, Maylard and others have laid down very useful rules and precepts for differential diagnosis in intestinal obstruction, it is nevertheless very well known by those who frequently deal with these cases that the exact nature of the lesion is rarely made out before anesthesia has to some degree relaxed the abdominal wall, and usually not until the abdomen has been opened and the cavity explored.

In addition to the great number and variety of conditions which are well known as causes of intestinal obstruction, there are many which we would hardly consider as common causes of acute ileus, yet they are causes, and they are purely surgical conditions, and can be dealt with in no other way. For example, a case of obstruction due to cyst of the ileum and cecum is reported by Hochenegg, and Magnoux reports a case of invagination due to the presence of a myoma. This author collected from the literature reports of eleven cases in which this condition was caused by myoma. Morison records a case of obstruction due to polypus of the small intestine.

Neoplasms of the intestine may suddenly produce symptoms of obstruction of the bowel without previous warning. It is probable that in such cases hypertrophy of the muscularis above the obstruction compensates for the narrowing of the lumen, but with the lodgement in the constricted segment of some unusually large or hard mass of intestinal contents, an acute fulminating ileus suddenly develops. The sudden appearance of ileus does not always mean that a recent lesion is the cause.

It has been said by Treves that in ileus too much prominence must not be given to the mere circumstance that the bowel is obstructed, that to be sure obstruction of the bowel is often the prominent symptom, but not the sole basis upon which the malady depends. It can hardly be denied that the issue of a given case will

7. Fischer, N. Y. Med. Jour., Feb. 21, 1903.
8. Province Med., 1896, No. 5.
9. Lancet, April 12, 1902.

depend more or less directly on the length of time during which the intestine has been obstructed, regardless of whether the intestine be strangulated or plugged with its own contents. But mere plugging will not often produce the classical condition of ileus. The bowel may be completely plugged for weeks, and the patient make a good recovery. If, however, the intestinal wall be strangulated, its circulation blocked, the symptoms immediately become urgent. Here we must think of "strangled vessels," and beginning gangrene. Unfortunately, we too often confuse these cases of strangulation with mere obstipation or impaction.

It should be borne in mind that the condition of ileus with strangulation of the bowel is very rarely produced by mere plugging, and that when the symptoms of genuine ileus appear, nine times in ten the time of usefulness of the syringe and the enema is gone. I would not place a low appreciation upon the colonic douche. Its proper use requires brains and art and patience, and in no case should radical surgical means be considered until the colonic douche has been faithfully tried, but as a rule lavage of the stomach, inversion of the patient and colonic injection of oil, air and water are at best only palliative. Capillary puncture, abdominal massage and the administration of opium are perilous and reprehensible in practically all cases. With prompt diagnosticating, prompt operating and better operating the mortality will be steadily lowered.

It may be said that, as a rule, the urgency is not so great in obstruction of the large intestine as in closure of the small gut. In the former sedatives, hot stupes, taxis and enemata may be justly employed for a longer time than in the latter.

To some it might seem unnecessary to urge the necessity for early operation in cases of intestinal obstruction with ominous symptoms. This excludes mere obstipation, for the reason that impaction *per se* does not produce severe symptoms, as before observed, but physicians, for the most part, are for some reason not recognizing intestinal strangulation promptly enough, except it be consequent upon sudden descent of a hernia, and are not promptly advising operation.

It is a dangerous surgeon who counsels operation merely for the sake of operating, and who would operate in a "stable with a pocket knife," but he who bears the name of surgeon, and who is adequately equipped, and can provide a reasonably aseptic environment, but who stands by with folded hands, resigning these cases to Providence and the rectal douche, is ten times more dangerous. The surgeon who does not realize the limitations of his art is a dangerous man indeed, and he who is not aware of its possibilities is useless. But no man is more dangerous nor more useless in his community than the physician who would cling to a case of mechanical strangulating intestinal obstruction which he has been unable to accurately diagnosticate, and which he has not the facilities nor the intrepidity to treat in the only way which avails, that is by operation.

Abuse of the Medical School at Zurich in a Novel.—A Swiss authoress has written a novel which claims to portray the life of a medical student at Zurich. It is abusive in tone and has aroused much indignation. Professor Krönlein has written to the daily press explaining away the misconceptions, and a mass meeting of the students was held to protest against the statements in the book. The writer was a student in the literary course at the university. Her novel has been widely advertised by the protests, which is perhaps what she intended.

BACILLARY DYSENTERY (SHIGA).*

CHAS. F. MASON, M.D.
MAJOR AND SURGEON U. S. ARMY.
FORT SAM HOUSTON, TEXAS.

GENERAL REMARKS.

Dysentery has been, from the earliest times, a disease of great importance, and especially has this been the case in the tropics and in the camps of great armies in the field. My own impression, gained from something over two years' service in the tropics, is that intestinal disorders far outnumber all other diseases, and that of these, dysentery is of overshadowing importance, both on account of its high rate of mortality, and because of the invaliding which results from it.

In the medical history of the War of the Rebellion something over 259,000 cases of acute dysentery and 28,000 cases of the chronic type are reported to have occurred in the Federal Army alone; and, again, during the Spanish-American War the same disease played havoc among our troops in Cuba, Porto Rico and the Philippines; in the South African campaign it was also widely prevalent.

In the tropics it is endemic at all times, and its importance may be gathered from the observations of Strong that of 1,830 cases in soldiers admitted to one hospital in Manila in sixteen months, only one-third were returned from there to military duty, and that the deaths from dysentery in the Army in the Philippines were nearly four times as great as from any other single disease.

For many years an epidemic form of bacillary dysentery has prevailed in Japan in the late summer and fall; in 1899, there were some 130,000 cases, with more than 26,000 deaths.

The disease occurs all over the world, increasing in frequency and importance the nearer we approach the tropics. In the temperate zone it occurs sporadically, at times assuming an epidemic form, which, even in cold climates, may be widespread and fatal; and this is especially apt to be the case in institutions such as insane asylums, or other places where there is overcrowding and bad hygienic conditions. Dysentery is especially a disease of the late summer and autumn, and in the tropics is most prevalent toward the end of the rainy season, though it occurs at all seasons. Age and sex have apparently no other influence than that resulting from the greater exposure incident to the life of the male adult.

ETIOLOGY.

The dysenteries have been variously classified on epidemiologic, clinical and pathologic-anatomic grounds, and the varieties described by different authorities have been as numerous as their points of view.

On the one hand, some writers believe in the essential unity of all the dysenteries, while on the other it has been held that many forms of bacteria and several varieties of amebæ were each responsible for a particular form of the disease. Since the discovery by Losch, in 1875, of amebæ in the stools of dysenteric patients, these organisms have been regarded as the cause of tropical dysentery by many authorities. Between that date and 1897 nearly all the varieties of intestinal flora have been accused of being the causative agents of dysentery; but it was not until the latter year that Shiga, studying an epidemic of acute dysentery in Japan, was able to dem-

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onstrate the constant presence, in the intestinal discharges and in the inflamed mucous membranes, of bacilli which were not found in the intestinal tract of healthy subjects or in those suffering from other diseases, and using the agglutination test of Widal, announced the year before for typhoid fever, proved that the blood serum from his dysenteric cases gave the specific agglutination with the newly-isolated bacillus.

Flexner, in 1900, found the same bacillus in dysenteric stools in Manila, but was not satisfied that it was a specific organism. Later in the same year Strong and Musgrave confirmed his findings, and expressed their belief in the specific character of the organism. Since then the same bacillus has been isolated from dysenteric stools by Krause in Germany, Flexner and Duval and Vedder in the United States, Deycke in Turkey, Frosch v. Drigalski and Conradi in Prussia in the dysentery supposed to have been brought from China during the recent war, and by Foulerton among the English troops from South Africa. Still more recently Duval and Bassett have isolated the same bacillus from the stools in the summer diarrhea of infants.

It thus seems to be established that there are, etiologically, at least, two distinct types of dysentery, one ordinarily acute and due to the *Bacillus dysenteriæ* of Shiga, and the other usually chronic without the Shiga bacillus in the stools, and due to the ameba dysenteriæ. To the bacillary types belong the epidemic dysenteries, and the sporadic dysenteries of temperate climates, as well as the summer diarrheas of infancy.

Bacillary dysentery, then, is an acute infectious disease due to the *Bacillus dysenteriæ*. It is characterized clinically by frequent loose passages containing blood and mucus, by pain in the abdomen, tenesmus, and more or less fever.

Anatomically, there is catarrhal inflammation, fibrinous exudation, coagulation necrosis, and finally, ulceration. The inflammation affects chiefly the large intestine, but sometimes the lower end of the ileum is involved as well.

THE BACILLUS DYSENTERIÆ.

These bacilli are small rods with rounded ends, resembling the typhoid and colon organisms. They are slightly motile, flagellated, stain with ordinary dyes, decolorize with Gram, and do not liquefy gelatin. Their resisting power is slight, being readily killed by weak antiseptic solutions, and by an exposure of half an hour to sunlight.

The bacillus is not readily found in the evacuations for the first few days nor in the subacute and chronic stages, but by the end of the first week it is found abundantly in the blood and mucus discharges. Toward the end of the attack it disappears to reappear in relapses.

In the intestines it is found in the fresh exudate and in the deeper layers of the ulcers. It is also found in the mesenteric glands, but never elsewhere.

The blood of dysenteric patients agglutinates the *Bacillus dysenteriæ* in dilutions of 1 to 20 to 1 to 130, depending on the severity of the case and the stage of the disease. According to Shiga, this alone is not sufficient evidence, and to be positive the agglutination should progressively increase in intensity. Agglutination appears, according to Strong, as early as the third day, and is usually marked by the fifth or sixth day; but, according to Shiga, it is not positive until the second or third week, and is not therefore, of great importance in diagnosis. It has been found as late as eight months after recovery.

The value of the bacillary diagnosis is lessened by the fact that the bacilli can not often be found in the early stages or in the mild cases, but when the morbid process is low down in the colon or in the rectum, they can generally be found without difficulty. Agar plates are made in the usual manner, and after twenty-four hours' incubation the colonies are examined, and those which are least developed and most transparent are tested as follows:

1. Agglutinating capability with immune serum.
2. Cultivation upon glucose-agar.
3. Cultivation in milk.

If the agglutination reaction is positive, no gas is produced, and milk is not coagulated, the microorganism is *B. dysenteriæ*.

Shiga gives the following proofs that his bacillus is the specific cause of dysentery:

1 It is present in all cases.
2. It is never found in other diseases or in healthy persons.
3. Its presence in the stools corresponds in degree with the intensity of the morbid process.
4. It is found in the lesions in the intestinal wall.
5. It, or its toxins, cause intestinal hemorrhage.
6. It is agglutinated only by the blood of dysenteric patients.
7. The agglutinating power of the blood increases in intensity with convalescence.
8. Pfeiffer's reaction is marked.
9. Immune serum is of therapeutic and prophylactic value.
10. The infection of man: this occurred in one case where a pure culture was intentionally given to a condemned criminal, and in another where a culture was accidentally drawn into the mouth. There have also been at least two other cases of accidental laboratory infection.

PATHOLOGIC ANATOMY.

The lesions are those of a catarrhal, diphtheritic and sometimes hemorrhagic inflammation of a part or the whole of the large intestine, and occasionally of the lower portion of the small intestine.

The inflammation is most marked opposite the flexures of the colon because of the tendency of fecal masses to lodge there and set up inflammation through irritation. The changes begin in the mucosa and extend to the deeper parts, in contradistinction to those of the amebic type, where they are most marked in the submucosa. There is extensive coagulation necrosis; but, according to Strong, few or no real ulcers. Shiga, in Japan, reports the colon as riddled with small, shallow, clean-cut ulcers. The anatomic picture, however, is very different from that of amebic dysentery, with its large, ragged ulcers and undermined edges, not infrequently resulting in perforation. The submucosa is much thickened and infiltrated, the peritoneal coat is sometimes inflamed, and occasionally there are adhesions and hemorrhagic spots. Perforation seldom or never occurs. In the superficial layers of the inflamed region all sorts of bacilli and cocci are found; but in the deeper layers and in the adjacent inflamed and swollen mesocolic glands the *Bacillus dysenteriæ* is found in pure cultures.

When the small intestine is involved the changes are the same as in the colon, except there is not so much thickening of the submucosa.

The liver and spleen are not involved, while in the amebic type liver abscess is common.

MODE OF CONVEYANCE.

The disease does not appear to be directly contagious. The bacillus must be taken into the mouth, and this is accomplished ordinarily through the medium of infected drinking water. It may occur through infected milk

or uncooked foods, and it is possible that it occurs from contamination by the dust from infected soil, and may be carried by flies in the same manner as in typhoid fever.

Intestinal disorders, indigestion, improper food, exposure to cold and wet, starvation, overcrowding, and, indeed, all bad hygienic conditions are strong predisposing causes.

CLINICAL HISTORY.

General Description.—The incubation period is very short, usually not more than two or three days, while in one case where a pure culture was intentionally swallowed, dysentery resulted within twenty-four hours. In another instance where a small quantity of a liquid culture was accidentally drawn into the mouth, the same result followed in less than forty-eight hours. In still another case where infection was supposed to have occurred through the rectum from the use of an infected chamber, the incubation period was twenty-four hours.

Ordinarily, the disease comes on suddenly. Often the patient goes to bed well and wakes up in the night with pain in the abdomen, followed by diarrhea, the movements becoming more and more frequent, until they consist almost or entirely of blood and mucus. The number of movements varies from a dozen to fifty or more, and may be over a hundred in the twenty-four hours. There is more or less fever, intense thirst, much restlessness, coated tongue, straining at stool, and finally the movements become almost constant and involuntary. The swollen and infiltrated intestine can often be felt through the abdominal wall, and is very tender on pressure.

The disease is ordinarily of short duration, not more than ten days or two weeks. Before the end of the second week many cases will have terminated in death or convalescence, or the disease may gradually assume a chronic type.

Special Features.—The mode of onset is almost always sudden. The facial aspect in the early stages is anxious and expressive of suffering; toward the end it becomes apathetic. Fever is generally present, of irregular type and variable in amount, often reaching 103 F. to 104 F.; toward the end there may be a sudden fall to subnormal, a very unfavorable sign, or there may be a sudden rise. Rigors are rare. The skin at first is hot and dry, but toward the end it may be cold and clammy.

The pulse is rapid and often small and weak; death usually results from cardiac exhaustion.

The tongue is coated white, and at first is moist, but later becomes dry and glazed. Vomiting is unusual, though it does occur. Thirst is usually marked and persistent. The stools, at first diarrheal, soon consist of mucus and blood only; in the chronic stages there is an admixture of pus. Hemorrhage is rare, but does occur.

Abdominal pain is commonly marked, and there is tenderness over the seat of the lesions in the colon. The spleen and liver are not ordinarily enlarged or tender.

The blood changes are not very important. The white corpuscles, especially the polymorphonuclears, are usually moderately increased, though they may be diminished, especially in the fatal cases. The red corpuscles, at first increased through the loss of fluids by the bowels, are later diminished on account of the loss of blood in the stools.

Pulmonary complications may occur, especially broncho-pneumonia. The nervous system is not markedly affected unless the lesions are high up in the colon or in the small intestine; delirium may occur toward the end of fatal cases.

The urine is often diminished in amount and retention occurs. Sometimes there is a small amount of albumen, and occasionally there is an acute nephritis. Parotitis is an infrequent complication.

Shiga states that the general symptoms are due to the absorption of the products of the solution of the bacilli themselves, and not to toxins produced by them; that these symptoms are not so marked as in typhoid fever is due to the location of the lesions in the less readily absorbing large intestine. Sometimes the lesions are higher up in the small intestine, and then the disease is much more grave and the toxemia marked. Symptoms such as high fever, headache, pains all over the body, sleeplessness, stupor, delirium, ecchymoses, etc., appear, and when the rectum is much involved, tenesmus is marked. The disease has a constant tendency to ascend, and the higher up the lesions the more marked the toxemia, the larger the stools and the greater the gravity of the case.

ASSOCIATION WITH OTHER DISEASES.

The older writers, particularly Manson, seemed to think that the disease is often associated with malaria; but this view is opposed by Strong as a result of his experience in the Philippines.

There have been, however, a number of cases of double infection with the ameba and with the Shiga bacillus.

There are two types, or rather stages, of the disease; the acute form or ordinary epidemic dysentery of the tropics and temperate zones, and the subacute or chronic stages following the acute.

DIAGNOSIS.

Local rectal troubles causing blood and mucus discharges, such as hemorrhoids, polypus, malignant disease, etc., are to be excluded by direct examination. The most important differentiation is that from amebic dysentery, and this is often not possible from a consideration of the general symptoms alone. The most important points are the sudden and severe onset, the rapid course, high mortality, and epidemic occurrence of the Shiga dysentery, as contrasted with the more gradual and milder onset and course of the amebic disease and the endemic prevalence of the latter. The amebic type is, however, sometimes acute in its onset. Liver abscess seldom or never occurs in the bacillary disease, while it is common in the amebic form. In amebic dysentery, except when complicated with liver abscess, toxic symptoms, such as fever, malaise, headache, anorexia and nervous symptoms, seldom occur.

The specific tests are the only reliable ones; the isolation of the bacilli from the stools and the agglutination tests for the Shiga organism, and the finding of the ameba in the stools in the amebic type. The bacilli are found in the stools in all severe cases of Shiga's dysentery as early as the end of the first week in the acute stages, and sometimes in pure cultures. They may not be found in the later stages, and they are never present in the intestinal tract of healthy persons.

PROGNOSIS.

This depends on the severity of the epidemic and extent of the lesions. If the rectum and sigmoid flexure only are involved, the prognosis is favorable, while if the whole large intestine, and especially a portion of the small intestine is involved, it is very unfavorable. Nervous and other toxemic symptoms indicate such involvement, and are hence unfavorable signs. Failure of the agglutination reaction to increase in intensity is also a bad omen.

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The disease is always a grave one, the mortality ranging in the Japanese epidemics from 30 to 40 per cent. Recovery is rare in the more severe cases, and death usually occurs in the first ten days. Those who do recover are left very much weakened and emaciated, but usually without the digestive disturbances which so often follow amebic dysentery.

PROPHYLAXIS.

In the treatment the same precautions to prevent extension of the disease are required, as in typhoid fever; the most important of these consists in thorough disinfection of the discharges from the bowels and everything liable to have been contaminated by them, including the hands of attendants and instruments and appliances used about the patient. Personal prophylaxis includes also the use of water that has been sterilized and the avoidance of uncooked fruit and vegetables. The disease is a preventable one, and with military commands it should be prevented whenever it is possible to control the water and food supply of the men.

TREATMENT.

In the acute form the first essential is absolute rest in bed, with sufficient covering to protect from cold and draughts. Diet is also of the utmost importance, and should be exclusively liquid, and of such a nature as to be completely digested in the stomach. Milk is the best food, and may be given plain, peptonized or diluted with carbonated water or lime water; in the form of koumyss it is also well borne. All drinks should be tepid or warm, and given in small quantities at a time, and at frequent intervals. When milk is seriously objected to or can not be borne, strong broths of beef, mutton or chicken may be used; albumin water is of value in very severe cases. Stimulants may be given if needed, and the best is good brandy in the form of milk punch, or an occasional egg-nog.

The success which has been attained in Japan with the specific serum treatment instituted by Shiga gives that method the first rank in the consideration of therapeutic agents. Having had no experience with the method myself, I quote from Shiga's own article in the Twentieth Century Practice:

IMMUNIZATION OF HORSES AGAINST DYSENTERY.

An agar culture of the *B. dysenteriæ* which has been maintained at the incubator temperature for twenty-four hours is emulsified in normal saline solution and heated at 60 C. for one-half an hour. This mixture is then inoculated subcutaneously into horses in the usual manner, beginning with small doses which are gradually increased in amount. The immunization can be more easily produced if immune serum is added to the emulsion of the dysenteric bacilli, because abscesses which reduce the vitality of the animal are often produced at the site of the inoculation when bacilli alone are employed.

PRACTICAL SERUM TREATMENT.

Dysenteric serum, like typhoid serum, is bactericidal, but in practice the former gives much better results than the latter. According to my opinion, this is due to the localization of the lesions and the toxic symptoms. In dysentery, the lesions are usually localized in the rectum and lower portion of the large intestine, whose physiologic function is principally mechanical, and where absorption of the food does not take place as in the small intestine. The toxic symptoms are intimately connected with this localization, against which bactericidal serum is valueless. Such symptoms in dysentery are happily less prominent than in typhoid fever. This is the chief reason for the favorable influence of dysenteric serum. This conception also accounts for the very unprofitable prognosis in enterodysentery.

RULES FOR ADMINISTRATION.

In accordance with my researches I have formulated the following rules for the administration of dysenteric serum for use in the Institute for Infectious Diseases in Tokyo:

1. In mild cases the serum is inoculated once in a dose of 6 to 10 c.c.

2. In cases of medium severity the serum is twice inoculated in doses of 10 c.c. The interval is from six to ten hours.

3. In severe cases the greatest quantities of serum are inoculated (about 60 c.c.). The daily dose does not, however, exceed 20 c.c.

By serum treatment the disease in its first stages is quickly cured or remarkably ameliorated. In advanced or inflammatory stages the effects produced are about as follows: The number of stools is markedly diminished (generally reduced by halves for three successive days, followed by rapid recovery), the tormina and tenesmus decrease, the blood in the stools diminishes or entirely vanishes, the abdominal pains lessen, the fever vanishes, the appetite increases, and the general condition is much improved. In the ulcerative stages the action of the serum is not so pronounced as in the earlier stages, nevertheless healing of the ulcers with cicatrization often takes place.. In such cases the fever is reduced, the number of stools is markedly diminished, the general condition is improved, and the appetite increases. In this stage even the results obtained are far better than those given by any other method of treatment.

By the serum treatment the course of the disease is shortened in those who recover, and lengthened in those who die. Of the 510 cases which I have treated (298 with serum and 212 with drugs) the entire course (counting from the beginning of the sickness to the discharge from the hospital) was on the average as follows:

	Recovered.	Died.
Serum treatment	25 days.	16 days.
Symptomatic treatment	40 days.	11 days.

The mortality of dysentery varies according to the climate, the epidemic, etc.; in order to estimate properly the value of the serum treatment I will here record the mortality in hospital treatment.

The mortality by the use of the serum treatment was reduced one-third below that given by symptomatic treatment, and was less than one-half the minimum obtained by such treatment.

MORTALITY IN HOSPITAL TREATMENT.

Year.	Place.	Treatment.	Number of Cases.	Deaths.	Percentage of Deaths.
1885	City Hospital	Symptomatic.	38	22	55.0
1886	City Hospital I.	"	221	86	39.0
1886	City Hospital II	"	6	2	33.3
1897	City Hospital I.	"	336	143	42.4
1897	City Hospital II.	"	4	1	25.0
1897	City Hospital III.	"	767	304	39.6
1897	Inst. for Infec. Dis.	"	34	8	23.5
1898	City Hospital I	"	178	73	42.0
1898	City Hospital II.	"	385	141	36.6
1898	Inst. for Infec. Dis.	Serum	65	6	9.2
1899	City Hospital I.	Symptomatic.	98	32	32.6
1899	City Hospital II.	Serum	88	11	12.5
1899	City Hospital III.	Symptomatic.	481	105	22.0
1899	Inst. for Infec. Dis.	Serum	105	5	8.5
1900	Inst. for Infec. Dis.	"	40	5	12.5

Certainly this is a showing which encourages us to give the serum treatment a careful and extended trial. But Shiga says:

Whether or not serum-therapy is employed, suitable cathartics and enemata should always be administered, since these tend to limit the upward extension of the disease. For this purpose I generally order 0.5 grams of calomel, to be given twice, or 10 to 15 c.c. of castor oil, which is to be given but once. Thereafter, enemata of 1 per cent. saline or soda solution should be given once or twice daily. Combined with the serum treatment I generally order acid or alkaline drinks or red wine.

MEDICAL TREATMENT.

This may be considered under two headings, antiseptic and eliminative treatment. Of antiseptics, those

usually employed are calomel, bichlorid of mercury and salol. All these have been highly praised and extensively used, but with the exception of calomel, which at times is very useful as an eliminative agent, it is doubtful if any of them have real value.

The most important eliminative agents used are the saline laxatives, especially the sulphates of soda and magnesia; ipecac in large doses is also highly recommended.

These remedies act first by emptying the bowels of all irritating fecal matter and then mechanically flushing them out, sweeping out at the same time many of the bacilli and their toxins.

Some physicians use the salines in large doses and only at the beginning of the disease, while others use small doses frequently repeated until blood and mucus disappear from the stools.

The ipecac treatment is very popular with the British, more especially in the British Indian service, but it has never gained much of a foothold among the profession either here or in our tropical possessions. In this method no food is given for several hours, then a mustard plaster is applied to the epigastrium and twenty or thirty drops of laudanum given by the mouth; half an hour after the laudanum two grams of ipecac are given in bolus or capsule, and the patient kept perfectly quiet with head low. If the medicine is rejected by vomiting it is repeated after an hour or two; if it is retained it is nevertheless repeated after eight, ten or twelve hours, according to the effect produced, the object being to secure a feculent movement free from blood and mucus.

My own plan, as a result of experience gained in the tropics and the southern states, is to give 10 grams of Epsom salts in half a glassful of water every hour until a movement is obtained free from blood and mucus. This method is combined with irrigation of the lower bowel with warm normal saline two or three times a day, and as soon as the movements assume an ordinary diarrheal character astringents, such as bismuth subgallate in large doses, combined perhaps with a little Dover's powder, are given every three or four hours; should blood and mucus reappear, the saline flushing is repeated. The lower down in the bowel the lesions are seated the more important becomes the local treatment by irrigation.

In convalescence great care is required in the management of the diet. These patients are usually greatly weakened and emaciated, and a slight indiscretion in regard to food will often cause a serious relapse. Only liquids or very soft and digestible solids should be used for some time after the movements become normal. A change of climate or a sea voyage greatly hastens recovery, and for patients in the tropics is often essential.

TREATMENT OF THE SUBACUTE AND CHRONIC STAGES.

In the subacute and chronic stages of the disease the treatment is somewhat different, but even here salines may often be used with advantage in the beginning. Local treatment is, however, of the first importance in these cases; the patient should be given an anesthetic, the sphincter well stretched, and the rectum carefully examined with the speculum to detect ulcers. These ulcers will often be found with a little pocket at the lower end in which fecal or other foreign matter lodges, keeping up the irritation. These pouches must be slit up to the bottom, scraped with the curette, or touched with pure carbolic acid or lunar caustic; after this the use of warm saline injections two or three times a day with proper diet suffices to effect a cure. When the lesions are higher up nitrate of silver injections, 1 to 500 or 250, are given every day or every other day; the injections should be large, two or three pints, warm, and given slowly through a tube introduced 12 or 15 inches; the patient should be in the left lateral position with the hips raised. Internally, large doses of dermatol are useful in these cases.

MALARIAL DYSENTERY.*

WILLIAM BRITT BURNS, M.D.
MEMPHIS, TENN.

One has but to review the literature of dysentery to arrive at the conclusion that there is no fixed etiologic factor in this disease; that the lesions, which are mainly confined to the large intestine, are quite characteristic, but are induced by several different agents, is a pretty constant finding, and is worthy of consideration.

The *Amœba coli* is designated as the specific causative factor of dysentery, but here one is confronted with the fact that these bodies are found in less than one-half of the cases of all varieties and stages of the disease, and that the colon may be the normal habitat of amebæ, not only of this, but other amebæ—*Amœba guttula, diaphana, vermicularis, oblonga, reticularis and proteus*—which, it may be, are quite as culpable as *Amœba coli*. Moreover, these bodies are usually accompanied by other organisms, some pathogenic, and others which, by the proper environment, may be made pathogenic. Again, injections of amebic stools into the bowels of laboratory animals have not produced dysentery, and on the other hand, ameba-free stools injected in like manner have produced the flux. *Amœba coli* occurs nearly constantly in the pus of about half of the cases of liver abscess from dysentery; bearing out the contention of Councilman and Lafleur that amebæ are found, not alone in the pus and on the walls of intestinal ulcers, but in the tissues around them, they could not, therefore, reach the liver without some such portals of entry. I quite agree that the *Amœba coli* is one of the agents in the etiology of dysentery.

The work of Shiga, Flexner and others have given the profession a ray of hope looking to the minimizing of the agents of this great scourge, but up to the present we are only able to say that there are "forms of dysentery," under which heading "several diseases unlike in their etiology and pathologic anatomy and, occurring under different conditions of climate and locality, although resembling each other to some extent in their symptoms." Thus we have dysenteric and diarrheal symptoms accompanying typhoid infection, pneumonia, bronchitis, hepatitis, abscess of the liver, etc.

Celli and Fiocca believe that the *Bacterium coli communis* is the etiologic factor in dysentery; this in connection with a bacillus resembling the typhoid bacillus and streptococci induce dysentery. Flexner has observed in the Philadelphia Hospital one case of dysentery, where the *Bacillus dysenteriæ* was found, and states that further observations are necessary to determine definitely whether this form of disease prevails in this country.

In short, it seems the part of wisdom to admit that in so far as there is a distinct, definite causative factor in the production of the fluxes, we are largely in doubt.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

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Thus, desultorily, I am lead to the subject of this paper. I could not better begin than by quoting from Manson: "In respect to geographic distribution and certain epidemiologic points, tropical dysentery bears a close resemblance to malaria. Like malaria, although dysentery is found in temperate climates, in them it is, with exceptions, a comparatively rare and mild affection. Like malaria, as we approach the Equator dysentery tends to become more common, and in type more severe. Like malaria, it is endemic in certain spots, where it often appears in sporadic form, and, at times, in limited local epidemics. Like malaria, it may extend beyond these endemic spots and involve more extensive tracts of country. Like malaria, it appears to have a predilection for low-lying damp places; and, like malaria, when occurring in temperate climates it is most prevalent in the late summer, or in early autumn. Like malaria, it tends to disappear on the cultivation and drainage and improved sanitation of a country."

In looking over the "Medical and Surgical History of the War of the Rebellion," I have been struck by the apparent accurateness of the observations of the medical officers on the "Pathologic Anatomy and Pathology of Malarial Disease," and the deductions drawn therefrom, measured by the present-day knowledge of the pathologic conditions brought about by the malarial parasite.

The postmortem notes, so far as required for our subject, are as follows:

Stomach.—In 21 of the cases the condition of the stomach is not stated; it was normal in 5 and constricted in 1. In 13 cases a morbid condition was specified thus: In 4 the organ contained a green-grumous or mud-like liquid; in 3 its mucous membrane was congested; in 1 softened; in 1 slate-colored; in 1 thickened, and in 4 ecchymosed.

Intestinal Canal.—In 6 of the 40 cases the intestines were reported healthy; in 9 their condition was not stated. In 13 of the remaining 25 cases the large and small intestines, so far as can be ascertained from the phraseology of the reports, were both affected. Five of the cases were much congested or inflamed, but not ulcerated; in the first-mentioned, for instance, the canal was almost black from the engorged condition of the capillaries, and coagulated blood was found in its interior. In 1 of the 13 cases the mucous membrane was softened, and in 7 ulcerated; in 2 of the latter the duodenum alone was ulcerated, although the canal was generally highly congested; in 1 the ulcerations were reported as slight; in 1 as old; in 1 as large and in 1 as small, and in 1 as associated with a congested condition of the mucous membrane. In 6 of the 25 cases the condition of the small and large intestines is specifically stated: In 1 both were inflamed, but the patches of Peyer were not diseased; in 1 both were much congested and ecchymosed; in 2 deposits of black pigment were found in the large intestine, while the ileum in 1 was but slightly congested, and in the other merely stained with bile; on the other hand, the patches of Peyer in 1 presented the pigmented appearance, while the rectum was ulcerated; in 1 the mucous membrane of the ileum was softened and thickened, that of the colon congested. In the remaining 6 of the 25 cases the small intestine or ileum only was affected. In 3 it was congested, in one of which the patches of Peyer and the solitary glands were enlarged; in 1 it was ulcerated; in 1 congested to a purple color, which presented a deeper tint in the apices of the solitary glands, although the patches of Peyer were unaffected; in 1 also there was a deeply colored congestion which was especially marked throughout the jejunum.

I might quote the parallel observations of Maillot and of Laveran on the incidence of dysentery in malaria among the French troops; many others have contributed thoughts along this line. Craig, in his book on Estivo-Autumnal Malaria, leans very pronouncedly to the plasmodium as a causative factor in diarrhea and dysentery.

I have seen many, many times cases of dysentery respond promptly to quinin treatment. I am not now possessed of the case notes in these cases, but I remember well to have had a small epidemic of dysentery, each case of which began with the algid form of pernicious malaria. These were not merely of the catarrhal character, but there was "chopped meat" discharges, evidence of some sloughing. All of these cases—about 12 in number—responded to ordinary antiseptic irrigations, gland arousement and quinin in a week or less. Convalescence rapid.

Lastly, malarial parasites have been found not infrequently in the vessels of the mucosa and submucosa in cases of malarial dysentery coming to necropsy.

NOTE.—The discussion on the symposium including the papers of Drs. Mason and Burns will follow later.

TRAUMATIC PNEUMONIA.*

W. T. ENGLISH, A.M., M.D.
PITTSBURG, PA.

The compound term "traumatic pneumonia" implies association of injury with disease. Its ample interpretation concerns alike surgical and medical science. The Greek word "trauma" is very near to that of the English word "injury," both as to use and significance. Pneumonia is a medical appellation given a disease involving the presence of specific germs, and various changes in the air vesicles, parenchyma and associated structures of the lungs. "Pneumonitis" and "inflammation of the lungs," formerly used to designate this malady, have given place to the more liberal term "pneumonia." The use of the latter designation does not commit us to any theory as yet in dispute, and is in harmony with empiric evidences, as well as bacteriologic demonstrations of the present. Under whatsoever garb or name, and whether recorded in the chaos of lapsed eons or mingling with the dust and tumult of twentieth century activity, pneumonia has been and continues to be the assassin of human comfort, health, life and medical theory. Its autobiography is written in signs and symbols so legible that "he who runs may read," without betraying its origin or end. It shows no respect for time, place, age, sex or condition. Now it may be individualistic, again communistic, and anon socialistic. The frontier medical man "sees it in the clouds and hears it in the wind." The bacteriologist, confused by its multo-coloring, announces it an emanation from pleural sources.

Trauma is one causative agency in the awakening of pneumonia not yet accorded full recognition as a medical or surgical entity, which appeals to the consciousness of the physician of this age as never before. The importance of the subject augments with every step of human advance involving the utilization of energies and mechanical inventions unknown to our forefathers.

With "traumatic pneumonia" the profession is not as familiar as it should be, neither is it equipped with

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ample literature from those who have been the awed but mute witnesses of its consequences.

Surgical science, as displayed in the war between the north and south, hinted at the subject, and the immortal Hamilton observed that "The shock produced by a musket ball is sufficient to cause a rupture of some of the more superficial pulmonary vessels, and in other cases it gives rise eventually to pleuritis, or even pneumonia." He further says "a missile may impinge upon the thorax and without causing rupture of the skin or anything more than a slight abrasion, may fracture the rib, rupture the lungs, or some of the large blood vessels, or even tear open the heart itself."

Reidinger gave the name of "concussion of the chest," or commotio thoracica, to a series of cases of this character, but produced in various ways which were remarkable for their fatalities.

Litten, a more recent and copious writer upon the subject, recognizes the large influence of trauma upon the occurrence of pneumonia, and concludes that, "lobar, croupous (or fibrinous) pneumonia may arise as a sequel to violence upon the thorax, where no external signs appear." In his terminology he uses the name "traumatic pneumonia" for those cases following penetrating wounds in the lungs, and reserves the term "contusion pneumonia" for those resulting from external force producing concussion of the lungs.

Rezerot notes that "the results of injury may show pneumonia, localized spots of catarrhal pneumonia, and even interstitial thickening of the lungs."

Stephen Paget, a most reliable and capable observer and author, expresses himself thus: "We are tempted to make light of a general injury of the chest, unaccompanied by fracture, or by a serious wound of the soft tissues. But apart from the fact that very grave and even fatal results may follow a blow or a bruise over the chest, which seemed in itself insignificant, general injuries of the chest are sometimes attended by changes so unexpected and so obscure that they need careful consideration." In conclusion, he adds: "We are bound, therefore, not to think lightly of contusions of the chest merely because there is no fracture or external wound."

Pirogoff is authority for the statement that "such injuries are at least as dangerous as penetrating wounds."

Stern, who has made a special study of pneumonias from all causes, places the statistics of those produced by trauma at 4.4 per cent.

From all this we must infer the importance of the subject presented, and be also impressed with the necessity for careful inquiry into the causal factors in all classes of pneumonia, and especially those preceded by injury, no matter how trivial the objective evidences of trauma may appear. We must not forget that accident and fright may be factors in the production of traumatic pneumonia. Some recent authorities claim that fright is the first element of danger, although manifestly greater in some than in others. In our study of the factors contributing to the occurrence of traumatic pneumonia, we need not prove faithless to the theory associating the disease with the diplococcus, as it is a fact that the micro-organisms are present in the expectorations of those suffering from traumatic pneumonia.

The purpose of this paper is the consideration of those cases of traumatic pneumonia which appear from contusions, and, as far as possible, refrain from mention of those due to penetrating injuries of the lungs, or those including fractures of the bones or cartilages.

The question arises, "how is it possible for a jar or force expended upon the external surface of the yielding thorax to be so transmitted as to do violence to the contained viscera, and especially the elastic lungs?" We may understand why the delicate tissues of the brain may be injured by slight concussion, even by contrecoup or force upon the lower end of the spine, but we are naturally inquisitive about like possibilities in the lungs. The normal elasticity of the chest, in the majority of cases, is capable of rendering *nil* the accidental forces which antagonize it. The extremely young will resist a crushing weight, as that of the wheels of a wagon, to which the mature thorax would yield. However, a stroke of 100 to 300 pounds, carrying with it past the point of contact upon the chest all of the force not antagonized by the resistance offered, will cause the elastic walls to impinge upon the lungs with dangerous results, corresponding to the degree of thoracic elasticity. It would be more to the pulmonary disadvantage if the lungs were surprised by accident during full inspiration than if occurring at the end of expiration. Unfortunately, the former is the attitude of the lungs at the instant when the largest number of injuries are received. Fright is associated with 90 per cent. of chest injuries. In more than half of these fright prompts a gulp of air, closure of the glottis, rigidity of the diaphragm and other muscles of respiration and a fixidity of the thorax. There is also an attempt to free the arms, as in the attitude of self-defense. The chest is never guarded in this pose, instinctively responsive to the primal law of nature—self-preservation. Fright has not time for appeals to the ideational centers. The frightened human "holds his breath," and a stroke or fall on the chest is often received in the position of pulmonary disadvantage. To this condition of the chest is often added an advantageous angle for the force because of the unfortunate position assumed by the individual.

Hamilton describes the mechanism of force thus: "The ribs with their cartilages are bent inward violently and made to encroach very far upon the contained viscera, and serious lesions may be produced before the bony parietes are fractured."

Thus far we have considered normal conditions of the thorax and lungs, and the inference is that the force required to produce injury to the lungs varies with the age, elasticity of the chest, position of the lungs in the respiratory act, the exact angle at which the stroke may be received, and the individual factors.

It must be remembered that if a blow impinges upon the chest walls it is distributed to adjacent structures much as the sound waves in the air, amplifying and making greater impressions upon localities most easily influenced.

Peyrot claims that if a blow is received by the chest it is distributed to adjacent structures, but the lung itself is independent of this movement. Any want of elasticity, however, will favor yielding under stress, and injury results. This is direct injury. Moreover, there are numerous foci of latent weaknesses and chronic maladies in the average lungs which are liable to be affected by force thus extended. Tubercular diseases, pulmonary emphysema and congestions, as from heart disease, alcoholism, etc., act as predisposing causes and give wider range to traumatic influences than would be available in normal conditions.

Adhesions may influence changes in a mechanical way in parts remote from the seat of force. The jar may

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awaken a latent disease protected hitherto by areas of inactivity and solidification.

Many intrinsic and extrinsic causes must be considered in the efforts to account for pneumonia which will appear peculiar to each case and constitute the individual factors. One thought must be ever present with the physician called to examine the chest after injuries, and that is the universal possibility afforded everywhere for acquiring traumatic pneumonia. Pneumonia is today made available to all. The wholesome and the unwholesome, the wise and the unwise, are almost equally liable to become its victims. Nor is it needful that they await the incubation period of the pneumococcus or streptococcus, but by thoughtless dalliance during the millionth part of an instant in the way of a rapid transit electric car or a twentieth century juggernaut—the automobile—pneumonia begins to weave the network of death in the lungs. From the cultivated "interference" of the foot ball field, the polite fistic arena and other places for the display of athletic proficiency, as well as amid the hum and whir of mill and workshop, and from every point of the world where the strenuous life of the twentieth century thrills human kind, traumatic pneumonias are reported. These augment the numerical statistics of pneumonia and increase the mortality.

Interest in the subject is enlarged also by its medicolegal aspect. It is required that the physician commit himself most positively and under oath to the theory of its cause and consequences. The numerous incidental notations which concern the history, the onset, complications and sequelæ will be investigated by life assurance companies, accident insurance associations, and other corporations or individuals charged with liability, and tedious trials and litigations demand of the attending physician the most careful, exact and conscientious judgment of which he is capable.

The question will arise, "is the pneumonia an accidental or coincidental circumstance?" This must be answered by the physician in every case involving medical and surgical possibilities, whether before the legal judiciaries or the bar of his own conscience.

The responsibility of the physician ends not with the apparent cure of the acute conditions, but continues without limit because of diseases which develop later and may be regarded as sequelæ.

Pleurisy, pneumothorax, pyothorax, empyema, phthisis and almost every malady in the category of chest disorders have been charged to injury received at some period in life. The postmortem evidences have been most effective in some investigations.

When a physician is called to a case of injury liable to produce traumatic pneumonia he will probably find a rapid pulse and accelerated respiration, and in fully 65 per cent. the sputum will show some blood within a few hours, if not immediately. The shock is the first element of alarm demanding attention. The respiration reaches 60 to 70 per minute, but is not so common a symptom in adults as in children, and does not always correspond with the extent or gravity of the injury. Hamilton notes that "expectorations of blood in most cases occur immediately—frequently not until after the lapse of several hours, or even days, but it is rarely seen after the fifth, sixth or tenth day." The writer observed in a recent case that spitting of blood continued until the fourteenth day after the injury. Dyspnea may be absent, and no duskiness of the face, and nothing to suggest injury except disturbed breathing. No general or extensive contusion may appear with the history of a slight blow, affecting one portion of the chest and yet the shock be most disastrous. A condition of syncope immediately following trauma may be due to direct stimulation of the vagi, or to direct cardiac compression. The depressor nerves and the sympathetic may also act as causative agents in lowering the blood pressure during any prolonged period.

The examination of these cases must be conducted with celerity, and the physician should endeavor to give the patient as little discomfort as possible. The horizontal position is usually the safest and one causing least suffering. The external bruise or contusion will heal rapidly, and the pneumonia usually gives its characteristic signs and symptoms after forty-eight hours from the time of the contusion. This pneumonia may or may not be promoted by a destruction of continuity of the lungs, pleura or bronchial tubes, and the mechanical jar of the impinging stroke cause a slight tenderness or soreness which may arouse latent pneumonic energies which otherwise might have continued in abeyance or be counteracted without reaching the dignity of a pneumonia. Slight concussions are rarely dangerous in a purely surgical sense, but can thus directly prove fatal, and it is well to remember that infection may come to the lungs thus crippled and phthisis speedily follow. The relations of time to these consequences are very variable, and it is not safe to say that pneumonia coming on a fortnight after the injury of the lungs is not due to concussion, nor is it to be regarded as a safe position to assume that a phthisis, following years after the lungs have shown apparent cure, bears no responsibility as a causative agency. The rusty sputum is likely to succeed upon the streaked sputum as soon as the pneumonia reaches its second stage. Moreover, the diplococcus is to be found in traumatic pneumonias as easily as in cases free from injury. It is a fact that these germs are to be found in the mouths of most healthy people.

Jobert separates into three degrees, or classes, these injuries:

First—Hemorrhagic punctata from capillary rupture, the parenchyma remaining intact.

Second—Includes those in which small ruptures exist in tissue, including alveoli, bronchioles and vessels about them.

Third—Tears of the lungs, bronchi and vessels.

No systematic or conventional method of observation or treatment can be provided for these cases, as each is a law unto itself, yet a review of a few of the records may prove of advantage.

E. Block tells of a man 41 years old falling and striking upon the lower portion of the right side of his chest, who developed signs of pneumonia the following day in the right lower lobe. No chill was recorded, and the crisis occurred at the end of the fourth day. Bloody sputum was absent. It is assumed in the report that a moderate injury of the lungs may have given opportunity for the invasion of the pneumococci, which were found in the sputum.

Dr. R. A. Booth, physician to the City of Pittsburg, is quoted as having a case of traumatic pneumonia a few days ago in the hospital, caused in a man 62 years old, and which proved fatal in the fourth day. At the hospital the patient told the attendants he was injured by falling down stairs. A number of cases gathered by research have been charged to similar accidents.

R. E. Lord has placed on the list a case of injury to the chest by striking against a desk followed by hemoptysis and consolidation of the lung immediately under-

lying the seat of injury. This is one of a number of reports of cases of traumatic pneumonia resulting from violent contact of the chest and the edges of desks.

Dr. A. Koch adds the case of a man aged 38 years who fell from a height and received a severe contusion of the left side of the thorax, and in less than forty-eight hours after died in the hospital. Postmortem examination showed croupous pneumonia, with red hepatization and pneumonia bacilli. The man was free from disease at the time of the accident, and the ribs were not injured.

A case of "contusion pneumonia" contributed by Aufrecht shows that the pneumonia occurred on the side opposite to the injury, which later was produced while pushing a wheelbarrow heavily loaded, when the left handle struck upon the left side of the chest. The man was 38 years old, and up to the time healthy. About ten hours after the accident pneumonia appeared on the right side. Three days after the injury he died. An autopsy showed pneumonia of the right base.

During a professional experience of over three decades there have been personal opportunities afforded for observation in the City of Iron and Smoke. The list of traumatic pneumonia, inclusive of fractures of the bones and cartilages, as well as those due to contusions and concussion, challenges credulity. Those within the scope of this paper are not so numerous, and a brief recitation of some of these will be interesting. A man aged 29, of good health and uncertain family history was thrown upon his back and rudely tossed against the front door of an electric car which had deserted the track at a sharp curve and collided with a telegraph pole. He was completely disabled, and was lifted into a carriage and conveyed to his home, a distance of five blocks. Dyspnea, with the psychologic evidence of excessive alarm, were associated with blood-spitting and complaints of unease within the thorax. Appropriate treatment speedily annulled the immediate signs of the shock. Perfect quiet in the recumbent position was secured, but notwithstanding these precautions, a traumatic pneumonia was in evidence before the conclusion of the first forty-eight hours, without any special features, except that the hemoptysis gave place to rosy sputum on the third day. This case terminated by lysis, and was followed by prolonged convalescence. Three months later hectic symptoms appeared and tubercle bacilli were found in the sputum. A few days short of two years after the accident the life terminated. A suit was brought by the relatives against the street railway company, whose legal advisor made satisfactory settlement.

A man aged 61, of reasonable health, who was filling the duties of labor boss, was caught between an overturned wagon and the side of an excavation. His release was affected after about eight minutes. He was faint and suffered from a sense of suffocation. The employment of alcoholic stimulants, administered by the mouth, and crude attempts at artificial respiration gave him some relief until medical aid arrived. Hypodermatic use of strychnia and brandy were resorted to with good results. He was removed to his home and placed in the most restful and quiescent condition possible. This man developed a pneumonia before the end of the first twenty-four hours, in which the temperature range never exceeded 103.8. The pulse, which was 148 during the period of shock, fell to 118 after the lapse of ten hours, but fluctuated between this and 138 without apparent cause. This case showed no real abatement until after the fourteenth day, when the pneumonia ended rather abruptly, and all symptoms disappeared gradually. The patient resumed his former occupation at the beginning of the sixth week.

A man aged 57 years was walking on the railroad track when he was struck by an engine and precipitated over an embankment of 16 feet, sustaining fractures of the right humerus in two places. The force of the stroke caused the arm to infringe upon the right side of the thorax, producing an extensive contusion over the entire side. Blood-spitting appeared immediately. After sixteen hours, and without chill, the temperature reached 103.8, respiration 44 and pulse 128. The signs and symptoms of pneumonia continued until the seventh day, when they suddenly diminished and convalescence was rapid, leaving only the external surgical conditions for treatment. After a lapse of twenty-eight months this man continues in perfect health.

Dr. Ulysses Strouss of Beaver, Pa., reports a case in a man aged 32, standing on the rear end of his wagon unloading coal, when his horse suddenly started forward and he was thrown violently to the pavement, alighting on the posterior superior portion of the chest. He spat blood in a few minutes after the accident, which was succeeded by traumatic pneumonia, terminating by crisis on the fifth day, and there was rapid recovery. Six months have elapsed and no unfavorable symptoms have appeared.

A case illustrative of the lapse of time before betrayal of the results of injury is that of a man riding in an automobile and colliding with an electric car, precipitating him to the pavement with considerable force, upon the posterior aspect of the chest. The injury did not retire the subject from his duties until after the expiration of ten days, when a large quantity of dark blood was expectorated, in which the molds of the bronchial tubes were plainly demonstrated. The temperature ranged during four days between 102 and 103, when it ended by lysis. The physical signs were those of bronchopneumonia, with copious mucous râles of varied size, and cough and respiration of suffocative character. The sputum was examined carefully for tubercle bacilli with negative results. Subsequently, by the city physician, with like report. A third specimen expectorated in the writer's presence, and divided into three parts, was examined by three different persons, and several bacilli discovered by one. The last reports have been that the patient is perfectly well. This accident occurred ten months ago.

A man aged 41, lumber dealer, and of good habits and health, was thrown from the steps of a rapid transit car while attempting to alight, the signal to start being premature, and he received a severe stroke upon the anterior portion of the chest walls. He was taken to his hotel and placed in bed. No fracture existed, but in a few minutes after the fall he expectorated some blood-streaked sputum. Ten hours after the accident a fever of 104, pulse 138 and respiration of 52 were observed. The sputum became thoroughly mixed with blood and rusty. This case was prolonged, ending in lysis the fourteenth day after the advent of fever. Convalescence was slow, and the patient never recovered fully from a bronchial catarrhal condition, with numerous streptococci, but no tubercle bacilli in sputum. This case is still under observation. The chest is of paralytic appearance and conformation, and the subject admits the history of former bronchial catarrh, but claims that it was but temporary.

One of the most remarkable cases in the writer's experience was that of a man aged 31 years, 5 feet 8 inches in height, weight 168 pounds, of good family history

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and excellent health, a puddler by occupation, who was struck forcibly upon the right anterior portion of the chest by the handle of the tongs with which he was transferring a ball of metal. He immediately became faint and was seized with dyspnea. A physician examined the chest without discovering any external or internal signs of injury, except a swiftness of respiration. After the use of hypodermics of strychnia, brandy and other antidotes to the shock, he was able to go to his home by street car, a distance of about four miles. Here he received attention during the succeeding four days, and the diagnosis was pneumonia. The temperature, pulse and respiration, rusty sputum, etc., were in evidence in the history, as related to the writer, who was called in consultation on the fifth day, because of the alarming dyspnea which suddenly appeared. The patient was on his knees on the floor pressing the anterior portion of the chest against the mattress and begging for relief for his breathlessness. His features mirrored his desperate suffering. The side opposite to the pneumonia was distended to its utmost by pneumothorax. A paroxysm of severe coughing had preceded the pneumothorax, and doubtless produced a bronchial communication with the pleural cavity belonging to the lung engaged in supplementary respiration. The discomfort was reduced by a hypodermic injection of morphia gr. ¼, repeated in two hours. The proposition to use a trocar and give exit to the air was persistently rejected. After twelve hours it was determined to give surgical relief, regardless of the patient's opposition. At the hour appointed for the operation the patient was lying calmly in bed, the signs of distress had departed, respirations were reduced from 56 to 40, the pulse from 132 to 110, and the temperature had fallen 3.8 degrees. The physical signs of pneumonia were not gone, neither were those of pneumothorax wanting, but to each side they were much reduced, and the operation was abandoned, and the case progressed to a favorable termination of the pneumonia, which had ended by crisis, but the evidence of effusion succeeded the pneumothorax. The patient, notwithstanding all this, gained flesh, refused to have the fluid removed, and worked six months at the puddling furnace, after which he visited his home in Scotland, returning to his duties at the end of four months. He presented himself for examination one year and two months following the accident with a pyopneumothorax which had evacuated itself of one pint to three pints of pus through the mouth, repeating the evacuations at intervals of twelve to sixteen days. Specimens of this fluid examined on several occasions revealed numerous tubercle bacilli, streptococci and other microorganisms. This spontaneous method of relief continued during seventeen months, when it ceased, and the pleural cavity became distended, to finally present an empyema necessitating pointing between the ninth and tenth ribs on the vertical midscapular line. A hectic condition continued the pulse, temperature and respiration elevations for some time.

He was taken to the hospital and the chest opened, drained and washed out and treated with antiseptics. After three weeks he returned to his home much improved, but gradually yielded to phthisis eight months thereafter.

The study of these cases must include their medical, surgical and legal aspects. This has been advanced by references to numerous authorities and cases. Diagnosis, differentiation and treatment are so interwoven that it seems like supererogation to go into any further detail. The prognosis has been intimated. The medical treatment should be similar to that of ordinary pneumonia plus the demands of the surgical contributions. Complications or sequelæ are also subject to general and well-known medical and surgical management.

VERNAL CONJUNCTIVITIS.*

WM. CAMPBELL POSEY, M.D.
PHILADELPHIA.

So little is understood concerning the pathogenesis of vernal conjunctivitis, and its treatment is so generally ineffective, that it occurred to the writer some months ago to address a circular letter to ophthalmic surgeons throughout the United States, with a view to ascertaining their experience in studying and treating this rare form of disease, and especially for the purpose of determining whether locality influenced the frequency of its occurrence or modified its clinical manifestations.

The paper which follows has, accordingly, been based in large measure on the answers which were received, together with a few personal observations which the writer has been enabled to make on a number of cases which have come under his own care.

HISTORICAL SUMMARY.

Before proceeding with this, however, on account of the rarity of the disease and the still comparatively scanty literature upon it in the English language, it may not be amiss to review briefly its history and chief characteristics. Although Arlt, in 1846, undoubtedly referred to this disease in a paper in which he described "Three Cases of Infiltration of the Limbus by Grayish Yellow Transparent Gelatinous Masses," and Desmarres likewise, when he referred to cases of what he designated *hypertrophie perikeratique de la conjunctive*, it was not until 1872 that vernal conjunctivitis was assigned a place as a distinct and separate form of disease, by Saemisch and his pupil, Brockhaus. In addition to Arlt and Desmarres, Graefe, de Wecker and Hirschberg had also reported cases which were beyond doubt true instances of vernal conjunctivitis, but they assumed, in common with Desmarres, that they were dealing with unusual forms of phlyctenular disease.

Saemisch's account of the disease is very complete, and the symptomology which he gave of it is much the same as we know it to-day, with the important exception, however, that he failed to include in his description any lesions of the palpebral conjunctiva. These, which are probably the most common, and certainly the most characteristic features, were first noted by Raymond in 1876, and described more fully by Vetsch in 1879. Since that time a number of important monographs have appeared which have further established the propriety of classifying it as a distinct form of conjunctivitis. Burnett, of Washington, was the first to call the attention of American ophthalmologists to it, in an article which appeared in 1881, entitled "Circumcorneal Hypertrophy of the Conjunctiva." In 1884 Kipp, of Newark, made the second contribution to the American literature. Since then Gifford, Gradle and May have made communications of value and importance.

Vernal conjunctivitis, as we know it to-day, and as it occurs in all probability the world over, consists of an inflammation of the conjunctiva, at times of the lids alone, at times of the globe alone, and not rarely of a combination of these two, possessing certain physical

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features which distinguish it from all other forms of conjunctivitis, but which has, in addition, the peculiar characteristic of appearing with the advent of warm weather and of disappearing with the cold, and of repeating this peculiarity year after year. This seasonable characteristic, whence the name of the disease is derived, is the essential feature of vernal conjunctivitis.

The physical appearances of vernal conjunctivitis are as follows:

I. LESIONS OF THE PALPEBRAL CONJUNCTIVA.

(*a*) The most constant, and perhaps the pathognomonic symptom is a peculiar bluish white, milky appearance of the tarsal conjunctiva. Vetsch was the first to describe this condition, which is present in a greater or less degree in nearly all cases. In the few instances where it is not present the conjunctiva appears dull, infiltrated and thickened.

(*b*) The surface of the thickened conjunctiva may be smooth; usually, however, there are a number of elevations which present a striking appearance, resembling the granulations of no other form of conjunctival disease. These elevations present a pale pinkish, waxy appearance, and are quite flat, resembling plaques with crevices between. They are situated on the tarsus, the fornix being free, and are usually thickest in the middle of the lid. They are slightly pedunculated.

(*c*) In another and smaller group of cases the granulations are not so flattened, are yellow, semi-transparent, and cover more of the conjunctiva of the lid. These bear a close relationship to the granulations in follicular conjunctivitis.

In all three types the upper lid is the most affected, the conjunctiva of the lower lid being rarely more than thickened, with but a few elevations on it. The granulations are hard and gristly, this being especially true of the more rounded variety. A watery or mucous discharge is more or less constant, rarely it becomes mucopurulent, but never purulent.

II. LESIONS OF THE OCULAR CONJUNCTIVA.

(*a*) The limbus of the cornea becomes thickened and encroaches upon the cornea, forming a narrow ring of grayish yellow opacity, which encircles the cornea. The inner edge of this zone is sharply circumscribed; the outer blends gradually with the surrounding tissue. This area of infiltration does not show any tendency to broaden and invade the central portion of the cornea, or to break down into ulcers.

(*b*) Large yellowish red elevations, more or less circumscribed, appear at the limbus in the palpebral fissure, either on the nasal or temporal side, or on both. These are usually somewhat triangular in shape, but may be oval or quadrilateral. When the former, the base of the triangle is situated at the limbus, and is sharply defined from the corneal tissue, while the apex blends gradually with the episcleral tissues toward the equator.

(*c*) Under this class is included a combination of the first and second forms; in this type the entire limbus of the cornea is thickened and occupied by a series of irregularly rounded warty like tumors, grayish yellow in color. The inner edge of the zone of infiltration is not so sharply defined as in the two preceding types, and at times the corneal tissue is encroached on to a considerable extent. No case has been reported, however, where this was sufficiently marked to affect vision.

(*d*) Ordinary saturated ulcers of the cornea, which sometimes result from pressure and irritation, occasioned by unusually large and hard granulations in the palpebral conjunctiva. The tumors or elevations which surround the cornea are like the granulations in the conjunctiva of the lids, hard, dense, and as a rule non-vascular. They are not painful on pressure.

It is extremely rare that the disease occurs in the typical form, exhibiting the characteristic lesions of the tarsal and bulbar conjunctiva at the same time; though even in those cases where the elevations are most marked on the bulbar conjunctiva, there is usually at some time or other during the course of the disease, at least the milky haze, if not the characteristic granulations, on the tarsal conjunctiva. Terson has pointed out that often there is a kind of compensation between the tarsal and the pericorneal lesions, the characteristic changes being absent in one part when they are present in a marked degree in the other.

PATHOGENESIS.

Various observers have thought the disease to be dependent on a diathesis, and syphilis, scrofula, rickets, gout, and a general neurotic condition have been variously described as the soil upon which vernal conjunctivitis develops. It is possible, however, to exclude each of these in most cases, the disease occurring for the most part in perfectly healthy subjects; nor is there evidence, as will be more fully stated later, to assume that the disease is secondary to any local inflammation elsewhere, as in the throat or nose. In this connection, however, mention must be made of the relation of vernal conjunctivitis to recurring skin eruptions, by reason of the frequency with which eczema has been encountered in cases of vernal conjunctivitis by foreign observers, among whom may be mentioned Uhthoff, Vetsch, Danvers and Terson.

It is generally recognized that vernal conjunctivitis shows a predilection to develop in low-lying localities, the testimony of men from mountainous regions being that they see but few cases, and none at all from the highlands. The influence of humidity in aggravating the symptoms has been remarked, and the conjunction of a high temperature and high barometer has been found to be most distressing to subjects of the disease. Although certain authors would have it that a country life predisposes to the affection, there is no evidence to prove this, as it appears that city life, with the irritation provoked by the dust from the street and by the smoke with its carbon particles suspended in the air, offers as favorable conditions for its development.

Unlike most forms of conjunctivitis, vernal conjunctivitis affects all grades of society. All races are apparently equally susceptible, both whites and blacks being subject to it, and the disease seems to occur with the same relative frequency among the Jews.

On account of the recurrent nature of the affection, a micotic origin has been repeatedly searched for, but as yet no pathogenic micro-organism has been isolated.

It was thought by some, by reason of a certain similarity in their physical appearances, that vernal conjunctivitis was a form of trachoma. Until the morbid entity of both diseases is better understood, it is impossible to deny absolutely a relationship between the two, but the course and sequelæ of both diseases are so different that there are but few who now hold to such a theory. In like manner, there is no evidence to support the theory of an association with phlyctenular conjunctivitis; indeed, though Knus would regard vernal conjunctivitis as a peculiar hyperplastic conjunctivitis in intermediate relationship with the ordinary inflammations of the conjunctiva, and thinks that the disease is a modification, or at any rate develops

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from these, there are no grounds to couple it with any form of other ocular disease.

PATHOLOGY.

An excellent résumé of the histological changes which have been seen by various observers in vernal conjunctivitis, has been recently given by Terson. This author states that with few exceptions writers have given an excessive preponderance at one time to the epithelial nature, and at another to the subepithelial character of the granulations; so far as he is concerned, however, he agrees with Redmond in holding that the epithelium, although proliferated, does not constitute the mass of the neoplasm, but that the granulation is really a proliferation of the conjunctival tissue itself, with the increase in the number of elongated and narrowed cells, and also of embryonal and round cells.

In common with others, Terson noted that the histological changes differ somewhat in the pericorneal and tarsal forms; thus in the former he found a thickened epithelium of stratified pavement cells of a greater number than normal, but without the invagination noted by most authors; there was no well defined basal membrane; the tissue contained vessels, dilated capillaries and lymphatics, but was lacking in cells; the conjunctival cells were flattened and fusiform, and were compressed between enormous bands of fibrous connective tissue. In addition to these changes, he observed that the tarsal granulations are provided with an epithelium which is less abundant, though of the same nature, and without epithelial invaginations, the mass of the tissue being equally fibrous, though the infiltration with round cells and with leucocytes is much less marked. In this class of cases there is a proliferating tarso-conjunctivitis, a true papilloma of the tarsus, greatly hypertrophied and proliferated with elements which are newly formed and without the enormous lymphatic nests of trachoma. It was noted that in the tarsal variety the epithelial proliferation is less important than in the pericorneal, and that the typical granulations are formed by the subepithelial tissues.

Terson concludes finally that, as a mark of differentiation from the granulation of trachoma and the pustule of phlyctenular disease, the vegetation of vernal conjunctivitis is indurated, and he regards it as being really an attenuated papilloma which does not attain the composite structure and full development of the true form.

These views are substantially those of Danvers, who based his observations on a series of specimens, some of which were taken from eyes at the very commencement of the disease, others in the third year of the recurrence, and others after the tenth year of recurrence.

From the study of sections of the tarsal conjunctiva taken from three cases and mounted for him by Dr. E. A. Shumway and Dr. Harold Goldberg, the writer found a dense fibrous tissue beneath the epithelium which had apparently occasioned the elevations. The epithelium between the contiguous elevations could be seen to dip down below them in finger-like prolongations from the surface. Sections made parallel to the surface showed a network of epithelial cells with the spaces in it filled with dense fibrous tissue, each patch of fibrous tissue having a central blood vessel.

SUBJECTIVE SENSATIONS.

The disease usually begins, like an ordinary attack of catarrhal conjunctivitis, with smarting, burning and lachrymation, though an annoying itching sensation in the lids is apt to predominate. These symptoms persist with remissions during the course of the disease, being aggravated by hot murky conditions of the weather and ameliorated on dry and cool days.

COURSE.

The symptoms usually begin with the first warm days of spring, and persist until the days become permanently cool in the autumn. The disease is essentially chronic, recurring each year with obstinate persistency. In a few cases there are remissions, the symptoms failing to manifest themselves during an entire summer, this exception being attributed by Danvers and others to a relatively low humidity during these particular years.

DIAGNOSIS.

In its typical, or even under the forms under which vernal conjunctivitis usually presents itself, there should be no difficulty in differentiating it from any other form of conjunctivitis, provided, of course, the observer is familiar with its characteristics, either by study of a previous case seen by him or from a familiarity with the description of the disease as it now appears in all text-books on ophthalmology. In atypical cases, however, the diagnosis is not always an easy matter, and it will often need the history of attacks in previous springs to enable one to differentiate the not uncommon type where the filmy white appearance of the conjunctiva, the granulations and the lesions at the limbus are wanting, and the dull, thickened, infiltrated conjunctiva is the only apparent lesion, from an attack of phlyctenular conjunctivitis. But even in these cases the milky hue of the conjunctiva and granulations will usually manifest themselves if the case be kept under observation a few weeks.

Undoubtedly, however, the greatest difficulty in diagnosis is to differentiate the rather unusual type in which the granules are not flat, but round, and of a semitransparent pinkish yellow tint, from trachoma or from follicular conjunctivitis. Here the history of the case, the absence of pannus and discharge, will enable one to exclude trachoma, while the restriction of the granules to the upper lid, and to the median portion of the tarsus, and the hard, gristly nature of the granules, will make the diagnosis from follicular conjunctivitis. When the palpebral manifestations are absent and those at the corneal limbus are alone present, it is possible that vernal conjunctivitis may be confused with epithelioma, sarcoma, episcleritis, phlyctenular keratitis, gerontoxon, and certain pericorneal hypertrophies and verrucosities which are occasioned by sclero-choroiditis anterior. The history of the case, the age of the patient, and in doubtful cases the microscopic examination of a portion of the growth, will usually enable one to make the differentiation from tumors, while the diagnosis may be made from episcleritis and phlyctenular disease by the absence of signs of inflammation.

Such is a brief outline of the history, of the generally accepted clinical picture and of the pathogenesis and histology of vernal conjunctivitis, and of its diagnosis from other forms of ocular disease. Other details, in reference to its etiology, distribution, frequency, prognosis, treatment, etc., will now be considered, especially with a view to the expression of the views of American ophthalmologists on these subjects, as they have embodied them in their answers to the circular letter already referred to.

Can You Estimate the Proportion of Cases of This Disease in Your Locality, in Comparison With Other Forms of Conjunctivitis?

This, the first question, elicited a series of answers which were puzzling, and might have been misleading had several factors not been taken into consideration before any deductions were drawn from them. It was apparent, in the first place, that answers which were practically at variance with one another came from ophthalmologists in the same vicinity, often in the same cities and towns, all being based upon observations of ocular disease occurring among members of the same community. Where one would state that he saw ten cases of vernal conjunctivitis annually in his private and hospital practice, another would say that although he had been practicing in that community for twenty years or more, and had observed thousands of cases of ocular disease, he had never encountered one which he considered to be a true instance of vernal conjunctivitis. Thinking there must be some explanation for this, the writer had further communication with a number of those who disclaimed ever having seen a case, and elicited from most of these that they had been looking for typical examples, and relegated all others to other forms of conjunctivitis.

Taking this factor into consideration and making allowances for "the personal equation," in a number of instances, it was ascertained that vernal conjunctivitis existed in all parts of the United States, always as a very rare disease, but exceedingly uncommon in New England, the Northwest and the highlands of all the states, and that it occurred in most of the large cities of the other parts of the country, inland as well as seaboard, in the proportion ranging from one case of vernal conjunctivitis to every 200 to 500 of conjunctival disease.

Certain observers give a greater relative frequency and others a far lower, but this proportion is a conservative estimate of the average.

It was noted that the percentage of cases was higher in private than in hospital practice, but this, it is thought, may be explained by the lesser frequency with which all forms of conjunctivitis occurs among the better classes, and also by the fact that sooner or later, by reason of its intractability, nearly all cases of vernal conjunctivitis are brought to the private consultation of the ophthalmic leaders in every community.

It is difficult to ascertain how these figures compare with those obtained in other lands, but from personal observation and from communications received from Fuchs of Vienna and Collins of London, and from Terson's studies in Paris, the writer would judge that it occurred in these cities with about the same frequency as in the larger American cities. There is an impression among American ophthalmologists, particularly those who have spent some time in foreign clinics, that vernal conjunctivitis occurs more frequently abroad than at home. The writer, however, would recall to such the large number of patients in attendance at most foreign clinics, and that as students they saw all the rare cases in each clinic. Danvers quotes a number of statistics regarding the frequency of the disease in foreign lands, but does not mention the proportion in which the disease occurs with other cases of conjunctivitis, merely giving the frequency of its occurrence among the total number of cases. He found that as a general rule the disease is more prevalent in southern than in northern countries.

Do You Think This Disease Is Becoming More Prevalent?

From the answers received to this question, there seems to be no ground for the belief that vernal conjunctivitis is increasing in frequency, the relatively greater number of cases which have been observed in recent years being due, in all probability, to a more widespread knowledge of the disease, especially in its atypical forms.

Which Type Predominates in Your Locality—the Palpebral, Where the Disease Is Limited to the Conjunctiva of the Lids, or the Ocular, Where There Are Distinct Changes at the Corneal-Scleral Margin, or the Associated, Where Both Palpebral and Ocular Types Are Combined?

This question had a two-fold purpose; first, to ascertain whether locality had any influence upon the physical appearance of the disease, and secondly, to determine the relative frequency of occurrence of the various types. In regard to the first, it was apparent that locality has no influence whatever upon the type which the disease assumes, for upon this phase of the subject similar answers were received from the most widely separated parts of the country; bearing upon the latter point, the answers were most instructive, for they showed that the palpebral type was much the more common (60 per cent.), that the associated form occurred next in frequency (30 per cent.), while the disease was limited to the ocular portion of the conjunctiva in but 10 per cent. of the cases. It is possible that the percentage of cases of the palpebral type is even higher, as many cases of this type are doubtless overlooked, either from the patient not seeking relief, or from the ophthalmologist not recognizing it, by a failure to evert the lid; when the changes are at the scleral-corneal margin, the diagnosis is more readily made.

It is proper at this point to refer to a type of the disease which Burnett, of Washington, has described in negroes. In his article, which appeared in Knapp's "Archives for Ophthalmology" (Vol. X, page 414), under the title of "Circumcorneal Hypertrophy of the Conjunctiva," this distinguished observer said that "In addition to these appearances (i. e., the typical) which I have observed in both the white and colored races, I have found quite a peculiar and remarkable appearance in the conjunctiva in every case of this disease I have met with in the negro. This consists in a brownish discoloration of the conjunctival tissue, most intense at the scleral base of the mass, and gradually fading away toward the equator of the ball. This discoloration, which is undoubtedly situated in the conjunctival tissue itself, as well as in the epithelial layer, is not regular in its distribution, but appears to consist of a collection of small deposits of brown pigment. These deposits are sometimes collected in rather large masses, particularly near the base of the elevation, but toward the equator they appear as small brownish specks in the dull and succulent conjunctiva. In some instances this brownish discoloration extends but 3 mm. from the circum-corneal elevation, while in others it reaches almost to either canthus."

Though Philadelphia is a northern city, it has a very large colored population (60,000), and the writer is in charge of three large clinical services, two of which are situated in the quarter in which most of the negroes dwell. He has observed the changes so accurately described by Burnett, a number of times, but has always considered them to be occasioned by a marginal phlyc-

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tenular keratitis, or to changes somewhat similar to those producing pingueculum or pseudo arcus senilis. The inflammation in this class of cases persists all the year, is not associated with the peculiar whitish film and flattened granulations of the palpebral conjunctiva, and usually yields readily to tonics and the local remedies prescribed in phlyctenular keratitis. To obtain further testimony regarding this subject, special letters which covered this phase were addressed to a number of eminent southern ophthalmologists, and the replies of all indicated that while they had observed vernal conjunctivitis in negroes, they had found that it assumed its ordinary form in this race also, and that though they were familiar with the changes observed by Burnett in the limbal tissues of these subjects, they did not consider them to be in all instances due to vernal conjunctivitis, but in most cases to be the result of a localized inflammation of the limbus, as they considered that there was a tendency to a thickening of the tissues at the margin of the cornea in most inflammatory diseases of the eye of the negro.

Do You Often See the Peculiar Flattened Fungoid Elevations of the Palpebral Conjunctiva Referred to in the Text-books; or does the Disease Take the Form of a Thickening of the Conjunctiva Without the Development of the Elevations?

In the description of the clinical varieties under which vernal conjunctivitis might occur, the writer divided the palpebral forms of the disease into three classes; (*a*) those which present the milky white appearance of the conjunctiva, and others where this is absent, but in which the conjunctiva is dull, infiltrated and thickened; (*b*) those in which the conjunctiva is covered by rows of flattened elevations, and, (*c*) those in which the granulations are round and yellow, and harder than in the preceding variety.

From an experience gained by carefully following three cases during the past ten years, and a dozen or more for shorter periods, the writer is of the opinion that the first two forms represent but different stages in the development of the disease. In the first year or two, before the disease has persisted sufficiently long to produce very marked changes, the conjunctiva is in the condition described under class (*a*). After several years of recurrences, however, and proliferation of the epithelial tissue, elevations form, which attain a greater growth each year unless treatment is inaugurated. Such elevations are usually flattened, but occasionally assume a rounded form. This latter type is most intractable to treatment, persisting through the winter, and manifesting a tendency by the size and hardness of the granulations to injure the cornea by mechanical means. Cases of this type resemble trachoma, and it is probable that May referred to these in his report of six cases of mixed forms of trachoma and spring catarrh. From a careful reading of his article, it does not appear to the writer that May substantiated a diagnosis of trachoma in any of these six cases, the slight cicatrization in the conjunctiva being readily explainable by the employment of caustics and operations of expression, and the faint trace of pannus to an irritation of the cornea by the granulations.

From the answers received to these questions, it was apparent that elevations in the conjunctiva appeared in about 60 per cent. of all cases, though in many they were but slightly marked.

Have You Found Both Lids to Be Affected, or Have You Noticed a Predilection of the Disease to Attack the Upper Lid?

The majority of the answers showed that both lids were, as a rule, affected, though the lower lid rarely manifested more than the thickening already referred to, the milk-white haze and the elevations being seen only on the upper lid. Callan, of New York, explains the occurrence of the granulations on the upper lid, to the greater pressure to which the conjunctiva of that lid is subjected, and believes that this excites tissue changes, analogous to the growth of a corn on the foot.

Have You Ever Seen the Disease Limited to One Eye?

Vernal conjunctivitis is essentially bilateral, though from the answers received it is apparent that in a small number of cases (7 per cent.) it may be limited to one eye. It is possible, however, that even in these few cases, the observers may have seen the disease in an early stage, and that manifestations appeared later in the fellow eye.

Do You Think the Peculiar Whitish Coloration of the Conjunctiva the Most Constant Symptom of the Disease?

From the statistics it was learned that the conjunctiva presented a milky white appearance in 70 per cent. of all cases. This sign was present in every instance in the palpebral variety except in those which were characterized by the rounded variety of granulations and in another small number where the conjunctiva was dull and thickened. This appearance must be regarded as the pathognomonic physical sign of the disease, as the pathologic changes on which it depends, i. e., the thickened epithelium augmented later by the formation of a delicate subepithelial film of cicatricial tissue, must occasion it sooner or later. It is usually an early manifestation.

What Have You Found to Be the Age Limits of the Disease?

The experience of American ophthalmologists corresponds with those of European observers in regard to the age limits, cases being cited in the statistics occurring at ages ranging from 18 months to 50 years. The majority concurred, however, that the disease had its most frequent manifestation between the years of 6 and 16, and that it was very rare in individuals over 40 years of age. Desmarres noted that the disease could occur in very young children, at times almost congenitally. The writer has observed a well-marked case of the pericorneal type in an infant of 8 months, and Fuchs writes him that he has treated the disease in a man over 60 years of age. Risley reports a case in a man 50 years old.

Have You Observed Vernal Conjunctivitis in Females, or Do You Think Males More Liable?

The statistics obtained from the answers to this question showed that the experience of American ophthalmologists was analogous to that of Knüs, 85 per cent. of whose cases were males and but 15 per cent. females. A number recorded never having seen a female affected by the disease. No explanation of this comparative immunity of women has yet been offered.

At What Month Does the Disease Usually Appear in Your Neighborhood, and When Does It Disappear?

As would be supposed from the earlier advent of hot weather in the south, answers from the southern ophthalmologists showed that the disease appears earlier there than in the north. This subject is best considered under two headings; first, as regards subjective symptoms, and, secondly, objective signs. The former appear during the first few warm days of spring, and disappear entirely only with the cold weather of the autumn; the objective signs may, however, persist through the entire year—and this is particularly true of cases exhibiting

the hard rounded granulations in the conjunctiva and those with large prominence at the limbus, though occasionally a few flat granulations, and more rarely the whitish film of the conjunctiva will persist through the winter months, even in comparatively mild cases.

Although the time at which the disease first appears varies each year, according to the temperature, the first symptoms manifest themselves, as a rule, in the northern states in March or April, and in the southern states a few weeks earlier. By October all acute symptoms have usually disappeared. It has been the experience of the writer that when the atmospheric conditions which favor an outbreak of vernal conjunctivitis are present, that many of those who had been under his care in previous years for this disease, would consult him within a few days of one another, giving unmistakable evidence of the relationship existing between the various types, and enabling him to classify several cases as vernal conjunctivitis of whose precise nature he had been up to that time somewhat in doubt. He would also call attention to the fact already noted by others, of the influence which humidity has in precipitating attacks, the two factors of excessive humidity and high temperature being apparently necessary for an outbreak of the disease.

Have You Found That the Disease Grew Less Marked in Succeeding Years?

It was learned from the consideration of the ninth question that it was only in very rare cases that vernal conjunctivitis was seen in subjects after 40 years of age; it was judged from this that either when this age was attained, the pathogenic agent producing the disease had exhausted itself, or that by that time changes had occurred in the tissue of the conjunctiva which rendered it immune to the particular agent causing the disease. It was hoped that the answers to this question might determine whether there was not some limitation other than age, and whether the hope could not be extended to subjects of the disease that although treatment appeared ineffectual in curing the attack in any one year, nevertheless changes were wrought by it which would occasion a disappearance of the symptoms after a period of years. The writer's observation of nine cases which he has been able to follow by comparatively frequent study, for the past six years, indicated that though the disease persists in most instances for six or eight years, it loses its activity after that time. The observation of others corroborates this, as well as the rarity of the disease, for did it persist in all instances from the time of its first appearance, in early infancy perhaps, with annual manifestations, until adult life was attained, it would be much more commonly met with than is the rule; although Weeks speaks of a case in which recurrences had taken place every year for seventeen years, and Schwenck has followed a case since 1885, who has had yearly remissions.

It may be stated in general that the disease shows a tendency to become less marked from year to year; there may be years when, owing to some unusual climacteric influences, or to some special systematic condition of the patient, the symptoms are aggravated, but generally speaking, they seem to lessen as years go by. Whether this may be attributed to the persistence and continuance of treatment, or to changes in the ocular tissues themselves, can not be ascertained.

The prognosis, therefore, of vernal conjunctivitis may be stated in general terms to be good, for although the duration of the disease is protracted, and its symptoms so annoying in many cases that all use of the eyes must be suspended during a considerable period of each year, the ultimate issue is favorable, for with the exception of the ulceration of the cornea, which is occasioned in a few instances by the hard and horny granulations in the comparatively rare form of palpebral involvement, the center of that membrane is unaffected. As a general rule, the disease disappears wholly, leaving no trace in either the lids or the eyeball, though in a few cases certain changes occur which detract from the appearance of the eye from a cosmetic standpoint.

The most constant of these is a white ring of opacity on the margin of the cornea and a slight drooping of the upper lids, which imparts a sleepy look to subjects of the disease.

Have You Found Any Connection Between the Ocular Disease and Any Other Local Disease, Such as the Nose and Throat?

Upon account of the close anatomical connection between the mucous membrane of the eye and nose and pharynx, most cases of vernal conjunctivitis present symptoms of more or less irritation of the nose and pharynx. This has occasioned in the minds of many the belief that the inflammation of the mucous membrane of the eyes was secondary and dependent on a disease of the naso-pharynx. The answers would indicate that a number of American ophthalmologists held this view, which agrees with the observations made abroad by Coüetoux, Tétan, Silex, Danvers and others; the writer, however, quotes the opinion of the majority of American observers when he states that he believes the naso-pharyngitis to be purely of secondary origin, and to be explainable in the words of Bennett, of Buffalo, as follows: "The lacrimation in these cases is often excessive, and the carrying off of so much extra fluid into the nose causes the turbinals to become soggy, and the nostrils to become wholly or partially occluded. The proof of this to my mind is that when the elevations in the lid are removed, the excessive lacrimation ceases and the catarrh rapidly subsides."

In 1886 Gradle, of Chicago, reported four cases of a disease of the conjunctiva, which, by reason of their periodicity—lasting only during the warm season—suggested to him that they represented the pathologic entity known as hay fever, localized, however, entirely or principally in the conjunctiva. Although there was no manifestation on the globe, the changes in the tarsus were characteristic of vernal conjunctivitis. In a later paper (1895) this author states that the etiology of the affection is unknown, and adds that none of the cases observed by him presented the history of annually recurring typical hay fever.

Have You Ever Known the Disease to Be Contagious?

All of the answers to this question were negative, with the exception of that received from Weeks, of New York, who replied that "often two or more in a family were attacked, a fact which points to a contagious quality," although, he adds, "it is possible that infection alone may explain the manner of the acquisition of the affection in all of the cases that come before us."

Have You Ever Known the Disease to Be Hereditary?

Although the answers received to this question would tend to corroborate the view held hitherto, that the disease is not hereditary, a number of replies were received which indicated that the reverse might sometimes be true. Thus Wilder, of Chicago, cites the case of a boy 6 years old, whose mother gave a history of having had attacks of vernal conjunctivitis for a number of years, although an examination of her eyes made at the same time with her son's, showed no signs of it. Stevenson,

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of Ohio, saw both mother and daughter affected. Jackson, of Denver, thinks that he has seen instances where the disease was transmitted to the second generation. Theobald, of Baltimore, reports cases of the palpebral variety occurring in both father and son; and finally, Gifford, Tiffany and several others believe the disease to be sometimes hereditary.

What Treatment Have You Found Most Efficacious?

The chief interset of the clinician in vernal conjunctivitis undoubtedly centers in the treatment, for there is perhaps no other disease in the realm of ophthalmology which has been found to be equallly resistant to all therapeutic effort. There is scarcely a drug or a measure which could exert any possible beneficial action on the conjunctiva which has not been essayed. On account of the resemblance of the granulations to those of trachoma, treatment which was known to be of service in controlling that form of conjunctival disease has been generally tried, but in most cases the caustics employed were found to aggravate the symptoms, and removal of the granulations by grattage or excision was usually followed by their rapid reappearance. Milder astringents have also been employed, but from the answers which have been obtained, the experience of American ophthalmologists is apparently in agreement with that of foreign authors, that while remedies may be at times of service in relieving acute symptoms, none have been found which exerted a curative influence. Among the drugs which have proven most valuable in alleviating the symptoms and shortening its course, are mentioned weak solutions of silver nitrate, or its substitutes, protargol and argyrol; formaldehyd solution and protargol 4 per cent., hydrastin, holocain, antinosin, solutions of adrenalin chlorid, dilute acetic acid, the chlorid and sulphocarbonate of zinc, ointments of yellow oxid of mercury, of salicylic acid and of lanolin. While the writer is forced to acknowledge the intractability of this disease in many cases, he still believes that there is reason to approach the conduct of cases of vernal conjunctivitis with some confidence of success. In the first place, he would insist upon the value of certain prophylactic remedies which should be applied to the conjunctiva for some weeks or even months before the annual attack in the spring is expected. For this purpose he employs weak astringent washes with occasional massage of the conjunctiva with unguent hydrarg oxid. flav. (½ per cent.). Casey Wood massages the conjunctiva with lanolin to obtain the same result. Any constitutional disturbance is corrected and general hygienic measures enjoined, such as out of door exercise and cold bathing. If well borne, arsenic should be administered internally, as a number of foreign observers think they have established the connection between this disease and certain eczematous skin eruptions. If despite these precautionary measures, the symptoms of the disease appear, then if this be the first attack the patient should be advised of the nature of the affection, and should be counseled to restrict the use of his eyes at near work on the days when his symptoms are most intense, and to remain as much as possible in a cool, darkened room, out of the irritation of the sun's rays. Dark glasses should be worn in the light. Iced compresses should be maintained almost constantly, and all lotions which are to be instilled should be iced also. The lids should be anointed from time to time with a salve of the yellow oxid of mercury (½ per cent.). A mild antiseptic nasal spray may be employed, but as the writer has not been able to satisfy himself of any causal relationship existing between the irritation of the nasal pharynx, which is present in most cases, and the conjunctivitis, he does not think any special treatment of the nose or throat necessary. The drugs which are to be employed locally will depend largely on the type of inflammation which the disease assumes; if, as is usually the case, the tarsal conjunctiva is alone affected, and the granulations have not attained great size or density, mild antiseptic washes, either of boracic acid or boracic acid and cocain (acid boracic gr. x; cocain, gr. ii to f. ℥i) or of bichlorid of mercury (1-5,000) or of dilute acetic acid (gtt. x ad. f. ℥i), should be used at frequent intervals to keep the eyes clean and freed from secretion. In addition to this, a solution of adrenalin (1-5,000) will be found not only to bring great relief to the symptoms, especially to the itching which is always so troublesome, but to exert a marked influence upon shortening the course of the disease. Weeks has found the insufflation of calomel powder on the palpebral conjunctiva in an extremely thin layer, once in every forty-eight hours, to be of service.

In cases of longer standing, where the granulations are larger, but still flat and not yet of gristly consistency, the same lotions may be continued, but more powerful alteratives should be employed, such as either a solution of corrosive sublimate (in the strength of 1-5,000); massage of the lids with an ointment of yellow oxid of mercury (2 to 4 per cent.), or the application of boroglycerid and protargol 4 per cent. Suprarenal solution with chloretone, and a solution of formaldehyd and protargol are often of value. The persistent use of weak (¼ per cent.) solutions of nitrate of silver is of service in this variety also, especially if there be much associated catarrh of the conjunctiva. If the granulations still persist, despite these remedies, recourse should be had to electrolysis or the actual cautery, but excision of the granules by the knife should not, in the opinion of the writer, be performed in this stage, for it is possible, indeed usual, for such granulations, even those of large size, to disappear wholly on the advent of cool weather, and for the conjunctiva to assume a perfectly normal appearance. It does not seem justifiable, therefore, to employ a method of treatment which might produce permanent changes in the lids and lead to troublesome complications. Cauterization of the granulations by strong acids, such as chromic, is also to be depreciated.

In the third variety of the tarsal type, that in which the granulations have become hard and gristly and are rounded, it is better to proceed at once to the removal of such granulations by surgical measures. In this type the granulations persist through the winter, though the subjective symptoms may disappear, and as they occasion a permanent thickening of the tarsus, the scar tissue which is left by their removal is less annoying and disfiguring than the presence of the granulations themselves. The removal of the granulations in this stage is not an easy matter. The roller forceps will be found useless, and it is impossible to express the contents of such a granulation, even after it has been incised; each granulation is really a dense fibrous body, and is best removed by shaving it off even with the conjunctiva by means of a very sharp knife. Massage of the conjunctiva with lanolin or with a salve of the yellow oxid of mercury (4 per cent.) should be steadily maintained after the operation, as it will be found that the granulations will exhibit a tendency to recur; indeed, despite these local applications, repeated removals with the knife will often be necessitated. The prompt surgical intervention in this class of cases is usually followed by the greatest

amelioration in the symptoms; and the ulceration of the cornea, which is not infrequent in this type, from the mechanical pressure exerted upon the cornea by the size and hardness of the granulations, may usually be prevented.

In the ocular type of inflammation, massage of the globe with the yellow oxid of mercury will cause the disappearance of the swellings in many instances, if these be but small; where the granulations are large, frequent insufflations with calomel are of service, but at times the cautery will have to be resorted to. In the associated form, a continuation of the double line of treatment just outlined may be employed, and it will be found that if the granulations on the tarsal conjunctiva be similarly attacked, the changes around the limbus will be seen to disappear *pari passu* with those on the lids.

It is of interest to note that Starr and Bennett, of Buffalo, have obtained benefit from exposure of the conjunctiva to the action of the *x*-rays.

Although few, perhaps, may be able to take advantage of the benefits which accrue from it, change of climate is of great importance; while, as already stated in an earlier paragraph, it is impossible to ascertain from the answers received to the circular letter whether there was any part of the country which exhibited an absolute immunity against the disease, there is general testimony that cases of vernal conjunctivitis get well quicker in a high, dry, cool climate than under any other conditions. Thus patients do better in the mountains than at the seashore. Though it should be mentioned in this connection that Kipp has found that an ocean voyage removes annoying symptoms.

NOTE.—The complete bibliography of vernal conjunctivitis may be found in the article by Terson appearing in *La Gaz. des Hopitaux*, July, 1898, and in the monograph by Danvers, entitled "Spring Catarrh of the Eyes," and published by J. Bale, London, 1901.

DISCUSSION.

DR. JOHN E. WEEKS, New York—I have seen a comparatively large number of cases of this kind, the percentage being greater in the last few years in proportion to the number of cases of eye disease. It is a curious fact in my experience that these cases have occurred among the well-to-do in a proportionately larger percentage than in those whose hygienic surroundings have been less favorable. Children who live in the city during the winter and go to some country home in the summer are those who have furnished the largest number of cases. In my experience children under the age of 3 years seldom present this condition, and I do not think that I have ever seen the onset of the disease after the age of 25 years. I have, however, observed the results of this condition and a continuation of it in adults up to the age of 45 or 50 years.

The striking feature in this disease is the variability in the length of time during which it persists. I have observed it in children from whom it has entirely disappeared after the third summer. I have observed it in other cases in which its recurrence has been noted for at least eighteen years.

There does not seem to be any particular predisposition on the part of the individual to contract the disease; it occurs in the robust equally as often as in those who show evidence of relatively poor nutrition. In regard to locality, I have observed it in those who live near the seashore as well as those who live inland.

In regard to the cause of the disease, I have nothing to offer. It presents many of the qualities of an infectious nature. I have not as yet been able to discover any proof of contagion. I have, however, from time to time, observed it affecting two or three children in one family, but have never observed it in the form of an epidemic. In regard to the comparative frequency with which it affects the sexes, I have seen it more often in males. Terson (*Annales d'oculistique*, November, 1902) states that in the cases that he observed 85 per cent. were in males.

The disease affects both eyes almost without exception. I have seen involvement of the cornea in some cases, particularly those in which vegetations occur.

As to pathology: vernal conjunctivitis differs from trachoma in that the retrotarsal fold never presents vegetations; in fact, it does not appear to be involved, if we except some slight swelling. The minute papillary elevations which occur present a character entirely different from the trachoma follicle. They may be likened to the pile of velvet, perhaps a trifle coarser and shorter. This condition persists in a modified manner throughout the months of quiescence. After some years the papillæ become more or less aggregated and form fungoid elevations. These elevations under the microscope show a condition resembling fibrous papillæ. In some the sections show a great deal of fibrous tissue, the epithelial cells dipping down into it; in others the papilliform arrangement is more marked. The fungoid masses may be very few in number, scattered over the tarsal conjunctiva of the upper lid, or they may be quite numerous and involve the tarsal conjunctiva of both lids. It is at this stage that corneal complications are prone to occur. In this and the early stage a scanty, tenacious, muco-purulent secretion is present. The hypertrophied pericorneal tissue may encroach on the cornea, leaving on subsidence an irregular, opaque annular ring which may reach 2 mm. in width. I have never seen it extend over the entire cornea.

In the treatment of this condition I have found that mild measures serve best. Bathing the eyes with a warm solution of boric acid twice daily and the introduction of a 1 to 1.5 per cent. ointment of the yellow oxid of mercury into the eye once daily, at night, serve to reduce the inflammatory phenomena and to bring about a favorable condition. It has also been my habit to dust calomel on the conjunctival surface after everting the lids, perhaps every second day, putting on a very thin layer of calomel. The fungoid masses may be excised, but they are pretty sure to return in a very short time. However, if they are causing much irritation to the cornea, they should be excised. An attempt to change somewhat the nutrition of the conjunctiva by compressing it between the blades of trachoma forceps is sometimes of service. On the whole, however, mild treatment results in the greatest good to the patient. In regard to the use of cocain, I would say that in my hands it has not been beneficial. The congestion that follows often prolongs the disease.

DR. HENRY DICKSON BRUNS, New Orleans—In our clinics in this city I have had a good opportunity of comparing diseases of the eye as they exist in the white and negro races. I have just finished the study of 17,000 odd cases, of which 36 per cent. were negroes. Now the point I would like to dwell on is this: I have long paid especial attention to phlyctenular ophthalmia because of its frequency in the negro. The negro is often blinded by the disease, a condition that I have never seen in a white patient. I believe that the elevated ring appearing around the cornea and to a certain extent resembling that seen in spring catarrh, is a phlyctenular phenomenon. I have observed every possible transition type and every possible variety of infiltration. The transient nature of the disease, the readiness with which it seems to yield to simple treatment, is notable; the local application of mercury and internal administration of small doses together with keeping the conjunctiva clean suffice to bring about a cure in a very short time. I have never seen the disease last more than three or four months. If you evert the lid and look for changes you find a conjunctiva smooth, natural and not injected. This is not spring catarrh.

DR. H. GRADLE, Chicago—As far as I am aware, this disease had been described only as circumcorneal tumefaction with occasional changes in the conjunctiva of the lids until I called attention in 1884 to the disease limited to the lids without lesion around the cornea. Among some 35 cases seen in Chicago I have found the circumcorneal lesion but twice.

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The changes in the conjunctiva are progressive and increase from year to year. During the earlier years they disappear entirely in the winter. Later on both the lesions and the subjective symptoms may not cease entirely during the cold season, although invariably they diminish in severity. I believe I was the first to point out the analogy between spring catarrh and hay fever, both being limited to the warm season and to certain geographical regions. The patient with spring catarrh finds relief as soon as he visits a locality exempt from hay fever. I have seen, however, but one instance of coexistence of spring catarrh and hay fever in the same patient.

May has described the combined occurrence of spring catarrh and trachoma. Personally, I have never seen such a combination. As far as I have seen and learned, a radical distinction between spring catarrh and trachoma is the absolute exemption of the cornea in the former disease. As a rule, too, it is not impossible to distinguish the conjunctival lesions of the two diseases, independently of the history.

In the past two years I have seen at least three instances of conjunctival disease resembling advanced spring catarrh, but without the characteristic periodicity of that disease. These three were all recent affections according to the statements of the patients, but nevertheless they continued with but little abatement after the cold weather had begun. Since close inspection of the conjunctiva excluded trachoma absolutely there has been some doubt in my mind about the diagnosis. These patients, however, were finally cured by the continued use of a suprarenal solution of adrenalin, with the addition of chloretone (0.5 per cent.). In one the lesions and symptoms ceased gradually during the winter. In two others (and perhaps a fourth) the disease subsided gradually during the following warm season on continuing more steadily the same treatment.

DR. WILLIAM ZEUTMAYER, Philadelphia—I desire to corroborate the observations of Dr. Posey regarding the classification of Dr. Burnett. I have long regarded that clinical picture as a racial type of phlyctenular conjunctivitis. To my mind, in vernal catarrh the most characteristic subjective symptom is itching and objective symptom, non-involvement of the fornix conjunctiva.

DR. A. R. BAKER, Cleveland, Ohio—I would like to ask Dr. Posey to detail more fully the diagnostic features of this disease. In my practice I seldom if ever make a diagnosis of vernal catarrh. Either we do not have the disease in Cleveland or else I do not recognize it as such. If you call phlyctenular conjunctivitis "vernal catarrh," of course, we have lots of it, but I have not seen such cases as have been described as occurring in Switzerland and in Vienna.

DR. HIRAM WOODS, Baltimore.—I would like to ask about the pathology of the corneal complications in this disease. In Baltimore we see almost exclusively the variety which Dr. Bruns has described. In two cases under my care there have been corneal complications. It was specially noticeable that while the eyes presented appearances of acute inflammation, there was entire absence of the so-called corneal symptoms, photophobia, lacrymation, etc. Yet there was a peripheral ring of corneal opacity, partly hidden in one case by the swollen conjunctival tissue at the limbus. But for the presence of the acute conjunctival inflammation, one would have thought he was studying a cicatrized annular ulcer. With this absence of corneal symptoms it is improbable that we have acute keratitis. Still, the corneal changes are transient and can hardly be regarded as degenerative.

DR. M. D. STEVENSON, Akron, Ohio—The observation has recently been made that by passing a metallic or glass rod over the conjunctiva itching in the one case or painful sensation in the other would be developed, thus differentiating between vernal catarrh and trachoma. I have sometimes observed the contrary, and consider this statement of little value.

As to the treatment, I would like to mention the use of the *x*-ray. Dr. Smith of Warren, Ohio, has told me of some cases he had treated between the paroxysms of the disease with the *x*-ray with very great benefit. In one case he treated the lid that was most affected, and while its appearance changed but slightly, it did not become inflamed with the beginning of warm weather, while the lid of the other eye did.

Vernal conjunctivitis affects the palpebral conjunctiva chiefly and is often confined to the lids, but seldom to the limbus. True phlyctenulæ in phlyctenular conjunctivitis, on the other hand, are nearly always confined to the conjunctiva of the eyeball. I consider these two diseases entirely distinct and that, although not always easy to differentiate from one another, they are usually quite unlike in course and history.

DR. LOUIS STRICKER, Cincinnati—I would like to endorse what Dr. Bruns has said. I have had much difficulty in making a diagnosis of vernal catarrh, and have restricted the diagnosis to disease of the palpebral conjunctiva, and when I have found it to be a disease of the ocular conjunctiva I have put it down as phlyctenular conjunctivitis, and I treat these cases by internal medication only, with no local applications. I look on it as a peripheral neuritis, a result of toxemia from the intestinal tract. I do not believe there is a vernal catarrh of the ocular conjunctiva.

DR. HAROLD GIFFORD, Omaha—It seems unfortunate that there is a tendency to confound ocular vernal conjunctivitis with phlyctenular conjunctivitis. They are as distinct as they can be. As to its occurrence in the negro, I think Dr. Bruns said he had never seen a case in a negro; is that correct?

DR. BRUNS—Yes.

DR. GIFFORD—I have seen it in a perfectly characteristic form in two negro girls. There was no question of its being phlyctenular conjunctivitis, although the severe forms of phlyctenular conjunctivitis are common in negroes in our vicinity, as Dr. Bruns says.

In regard to the time it occurs, I think we are sometimes mistaken as to its occurring in life, being led to that idea by defective history on the part of the patient. I have seen the trouble crop out after many years of apparent freedom from it in patients I just happened to know had it when 8 to 12 years old. We sometimes see mild forms in children, which fade away, but during a very hot season crop out again, developing perfectly characteristic symptoms.

Another point is in regard to the one-sided cases. I think they are like the one-sided cases of trachoma; cases where they have had it in both eyes and have gotten over it in one. I have followed one such case, where a boy of 5 came to me with vernal catarrh of both eyes. I lost track of him, and after five years he came back with one eye practically normal and in the other a severe form of palpebral vernal conjunctivitis, as severe as I have ever seen. In this case vision was reduced to 20/200 in the affected eye, and, although it would improve under treatment, it would go back with sight greatly reduced, and finally I excised the conjunctiva of the upper lid and replaced it with an epithelial lip-flap. I think that is the only successful operative treatment.

DR. J. H. CLAIBORNE, JR., New York—I think I can array myself on the side of those who have seen vernal catarrh. I have never seen it in the negro, however, although I lived in the south before going to New York. I have seen it in New York City. We find it often in cases of good standing in life rather than in the lower classes, and I know of several cases where it repeats itself every year, and where it is restricted to the ocular and not to the palpebral conjunctiva. I have had the best results with the use of nitrate of silver and atropin and adrenalin combined. I should like very much to see the type Dr. Bruns refers to, and will certainly avail myself of the opportunity if I may.

DR. ROBERT L. RANDOLPH, Baltimore—In regard to the treatment, some five years ago I thought I had discovered what was almost a specific in the use of strong ointment of salicylic acid, but since reporting five cases I have seen two in which it failed. I start with an ointment of 1 per cent. and increase it up to as much as 80 grains to the ounce, or 16 per cent. In the cases of my original report the vegetations were pronounced on the upper lids, and I found with the use of the strong ointment that the vegetations disappeared, leaving a clean conjunctiva. I have since then, however, met with a

case in which the ointment had no effect whatever. It seems to be a trustworthy treatment in the cases of ocular vernal catarrh, but less so in the palpebral form. I have never entertained the idea for a moment that the disease was of bacterial origin.

DR. E. P. MORROW, Canton, Ohio—Dr. Baker spoke of never seeing these cases of vernal catarrh. I have seen a number of cases and am only sixty-three miles south of him. In treatment, the salicylic acid ointment, just spoken of by Dr. Randolph, has given me the best results. The strength I have used has been from 5 to 10 grains to the ounce. The intense itching complained of by these patients is entirely relieved by the application of ice cloths, the method of applying them being the same as employed in purulent conjunctivitis. I believe that this tends also to shorten the disease.

DR. WM. CAMPBELL POSEY, Philadelphia—As to the occurrence of the disease in different parts of the United States: Men who have lived in Maine many years have told me that they had never seen a case there, and I have had an opportunity of personally observing that one case at least who presented very marked symptoms in Philadelphia was immediately benefited by a change of residence to Mt. Desert Island.

It is only in the cases where there are the hard, rounded granulations on the lids that the diagnosis is difficult, and in those the absence of pannus and the history will generally suffice to differentiate them from trachoma. I have observed a number of cases of vernal conjunctivitis in negroes, both of the palpebral and ocular forms, but I believe that most of the cases referred to by Burnett are of phlyctenular origin. In conclusion, I would like to call attention to the employment of the *x*-rays in the treatment of vernal conjunctivitis, especially since I have just received a letter from Dr. Bennett of Buffalo, in which he states he has had most excellent results in one case from this method.

Clinical Report.

A CONGENITAL SACRAL TUMOR.

RICHARD T. HENDERSON, M.D.
URBANA, OHIO.

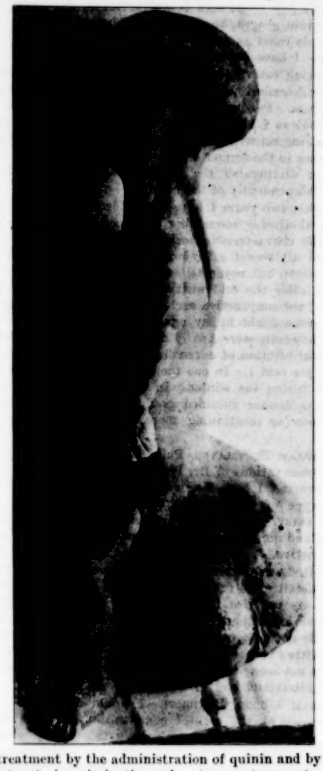
History.—I was called, April 10, 1903, to see Mrs. L., a medium-sized woman, apparently healthy, aged 30. She was the mother of two children, the younger being 2 years old; she had never had any sickness since the diseases of childhood. Her family history was good. She was at about the seventh month of gestation.

Examination.—Her excessive abdominal enlargement was double that of any woman I had ever seen at full term. Palpation was impossible, as the slightest pressure caused excruciating pain. She was unable to assume the recumbent position owing to dyspnea.

Labor.—After being called once by a false alarm, I found her in labor April 20, the contractions being short and of not much force, though she said she had been in labor for five hours. Dilatation had taken place to the size of a silver dollar. Three hours later there was more dilatation. The contractions, however, seemed to be on the wane, though the woman was not in the least exhausted. After twelve hours of labor, the contractions becoming weaker and weaker and the intermissions more and more prolonged, I ruptured the membranes. A flood of water, at least five pints, passed at once. With a few strong contractions the head was now born, with the cord wrapped around the babe's neck. There everything stopped. After loosening the cord (in which I found no pulsation) I waited one-half hour for a return of contractions, but as none occurred, I began gentle traction. This caused such agony that I was forced to desist. I anesthetized her completely and easily delivered the shoulders, but was unable to accomplish anything further. I introduced my hand and found what I took to be the buttocks of another child, but was soon surprised to find this mass firmly attached to the buttocks of the half-born babe. I then drew down both feet and began traction. After fully thirty minutes' traction the tumor was delivered, followed by a quart of water. The third stage was normal.

The tumor was located on the sacrum and coccyx, and was 18½ inches in circumference.

The woman rallied slowly, then did very well for six days. On the sixth day she had a chill and a temperature of 106.



After treatment by the administration of quinin and by vaginal and intrauterine irrigation the temperature returned to normal and the patient recovered her usual health.

The County Society the Unit.—A year's work under its new constitution and by-laws has shown where certain changes are imperatively necessary to the proper and successful carrying out of the society's work in harmony with the American Medical Association. The existence of "members at large" is in conflict with the spirit, if not, indeed, with the law of the A. M. A., and all such "members at large" should be obliged to join their county societies. It is the county society that is the fundamental unit of organization—properly so—and all licensed and reputable physicians should belong to this fundamental organization. Anything other than this would be as inconsistent as permitting a man becoming a member of the Knights Templars without being a member of a "blue lodge." The illustration cited is further apropos, for the whole plan of reorganization of the A. M. A. is merely an adoption of the general fraternal society plan. Therefore, we would say to all members at large, "Join your county society, or the county society nearest to your home, if there is none in your own county."—*California State Jour. of Med.*

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THE ETIOLOGY OF SYPHILIS.

It requires but the briefest survey of the literature of syphilis to realize the stupendous amount of work that has been done for half a century in searching for a microbic cause of the disease. It seems as if most of the individuals who have begun the search succeeded in finding a microbe, and under the force of enthusiasm, rather than of satisfactory proof, many have claimed the rôle of specific etiology for their organism.

The name of Donné is one of the first, if not the first, to be associated with the microbic etiology of syphilis, but this was more or less unintentional on his part, apparently, as his partisans state that he did not believe certain organisms he found in the discharges of syphilitics were the cause of the disease. His work was published in 1837. No noteworthy contribution to the subject was made until 1869, when Hallin claimed that a micrococcus which he found constantly in the blood of syphilitics caused the disease. This was a queer organism. It was found in the red blood cells, which became enlarged and vacuolated as a consequence of the invasion, and after a time they acquired ciliary elongations. It will be remembered that a few years ago Arnold described a number of morphologic peculiarities which develop in red blood cells as a result of standing. Hallin's observations in syphilis probably concerned some such artefact. In the same year Klotzsch found certain "spores" in the blood and skin lesions and cultivated them in broth; but his cultures were not taken in the light of confirmatory evidence by his contemporaries.

The "crypta syphilitica" of Salisbury and Brühlkens, which was published in 1870, was followed shortly by two discoveries of meteor-like career. Klebs, in 1870, described a remarkable organism, cultivated from syphilitic lesions, which was capable of growing either as a coccus or a bacillus, and often in peculiar and characteristic masses. It would seem probable that he had a mixed culture. However, he succeeded, to his satisfaction, in conveying syphilis to monkeys by inoculating this culture. He also infected monkeys with syphilis by direct transplantation of chancres. Then Lostorfer held the attention of medical scientists for some months with his "corpuscles of syphilis." They were seen to develop in syphilitic blood which had been kept for a few days in a moist chamber. There seems to have been an interesting sitting of the Wiener Medicinische Gesellschaft at this time, when Lostorfer volunteered to base the diagnosis of syphilis on an examination of the blood. The opportunity was given him, and he is said to have arrived at the differential diagnosis with considerable exactness in this way. But soon other observers found the same "corpuscles" in the blood in health and in various diseases, and the conclusion was reached that they were disintegration products, "granules of paraglobulin," as one writer said.

There appear to have been some equally successful observers in America at this time. Bermann of Baltimore had found bacilli and micrococci similar to those of Klebs, in the sections of the tissues, particularly in the vessels. Some critics believed he was studying intravascular fibrin. Then there was the dramatic demonstration of the fungus of syphilis by Cutter of Boston at a meeting of the American Medical Association held in Chicago in 1878. He found mycelium in the chancres by the use of a 1/50th and a 1/75th objective lens.

In 1881 Aufrecht found a micrococcus or a diplococcus in papular lesions, and Obraszow a similar organism in lymph glands. The findings of Birch-Hirschfeld, also of Peschel, in 1882, differed little from some previous observations. They found groups of cocci in all gummatous tumors except those which were cicatricial, in mucous patches, papules, and in indurated chancre. The best results were obtained by a study of fresh tissues in either acetic acid or potassium hydrate. Those who have used these solutions in the study of fresh tissues will recognize how closely various granules may simulate cocci. In the same year the results of Martineau were published. He introduced hogs into the experimental study of syphilis, claiming to have transferred the disease to them by inoculating cultures of hard chancres. These cultures were made by placing the chancre in a liquid medium at brood-oven temperature, a growth of micrococci resulting. The overlying liquid was used in the inoculations. The hogs underwent a papular eruption and the microbes could again be cultivated from the blood; they resembled somewhat those described by Klebs. He also gave monkeys a hard chancre on the prepuce which was followed in time by a characteristic papular eruption. Many others since then have obtained micrococci from syphilitic lesions, but there were also published valuable negative results, especially by Köbner (1883) and Neumann (1883), who failed utterly in the attempt to inoculate animals with syphilis.

Of all the micro-organisms observed or described in syphilis the bacillus of Lustgarten (1884) has been accorded the most favorable reception up to the present time. It will be remembered that this organism resembles the tubercle bacillus in morphology and staining properties, but is more easily decolorized by acids. He found it in small numbers in the primary sores and in internal organs in all of sixteen cases examined. It has never been cultivated artificially. Confirmatory work on this organism was undertaken by several observers. De Michele and Radice found it in forty-five out of sixty-four cases examined. It seems that Doutrelepont

and Schutz had carried on studies contemporaneously with Lustgarten and shortly after the latter's report described an organism resembling or identical with the Lustgarten bacillus (1885). It was found in two initial scleroses, two broad condylomata, a papule from the chin and a gumma. It occurred singly or in small groups especially at the periphery of lesions, but often many sections contained no organisms.

De Giacomi and also Gottstein (1885) were able to demonstrate the Lustgarten bacillus in a number of cases in both initial scleroses and gummata, and offered some improvements in the staining methods. Many others have been unable to find the organism, notably Sabouraud (1892), who after a study of twenty cases concluded Lustgarten had found only a pretty stain for the tubercle bacillus. This may not have been entirely just to Lustgarten.

More recently interest in the etiology of syphilis has revived. V. Niessen since 1898 has been publishing assiduously descriptions of his organism and his animal inoculations. As this is a pleomorphous organism, usually a streptobacillus, he is willing to concede that Klebs, Lustgarten and others may have seen one or another of its forms. It stains by Gram's method, is easily decolorized by acids, has endospores, and is found in all lesions and in the blood in all stages of syphilis, and it is supposed under no other conditions. He has been able to cultivate it, to produce syphilis in rabbits by injecting the culture, even to the extent of causing hereditary syphilis (abortion). The bacillus was found in the fetal lungs, and a papular eruption and ulcerated buttocks were present! Since the organism was present in all stages of the disease he concluded that syphilis is absolutely incurable. V. Niessen has met a great deal of ridicule among the Germans.

In 1901 de Lille and Julien cultivated a Gram-staining bacillus from the blood which was pathogenic for guinea-pigs and frogs and was agglutinated by the serum of syphilitics. The hog has been used for inoculation with syphilitic blood and excretions especially by Adrian and by Hügel and Holzhauser, and they claimed to have caused a generalized papular eruption which appeared about four weeks after the inoculation.

Joseph and Piorkowski have attacked the subject in a novel way. Since it seems probable that the sperm of syphilitics may infect a woman and convey syphilis to offspring, they concluded to study the sperm bacteriologically. They thought also that placental tissue might logically be a good culture medium. This was accordingly inoculated with the sperm of syphilitics and with that of healthy men as controls. Subtracting everything that was considered contamination, they centered their attention on certain clear colonies made up of a motile bacillus having the morphology of the diphtheria bacillus and the size of the subtilis bacillus. It stains by Gram's method, is not acid-proof and degenerates soon, with the formation of metachromatic granules. It has since been cultivated on various ordinary media. The positive findings occurred in about forty cases in stages varying from five weeks to five years of the disease, and was absent in the sperm of fifteen normal cases; positive results were secured also in twenty-seven hard chancres, in papules, mucous patches and other lesions. No satisfactory animal experiments have been obtained.

The medical profession appeared to have been little impressed with the protozoic cause which Max Schüller discovered about two years ago. He incubated syphilitic tissue and found the development of bodies resembling protozoa, which some German critics considered cork cells. The fact that he found similar "organisms" in carcinoma and sarcoma added no strength to his theory.

We may say that now we are confronted with the bacillary theory of syphilis, in contradistinction to the micrococcus theory which prevailed in previous years. It appears probable that several recent observers have been studying the same bacillus, particularly would this seem true in regard to the Gram-staining organism. And one may say that circumstantial evidence against this form of organism is accumulating rather formidably. But unfortunately confidence is often lessened in the work published because of hasty conclusions on the part of the investigators. A papular eruption in a hog or rabbit is surely not easy of recognition, and it is possible that many organisms may be able to produce it. And there are perhaps many organisms which would cause a rabbit to abort, as any infectious disease might; and excoriations on the buttocks of an immature, thin-skinned, fetal rabbit may have many explanations. Moreover, it does not follow that the specific germ for syphilis would be pathogenic for animals in the same way as in man. In pathology there are many instances where this is illustrated. Then the agglutination test for specificity of an organism can not be relied on unless it is most carefully controlled by experiments with normal serum.

In this day of rapid scientific progression, it is not to be forgotten that with new methods of differentiation, new burdens of proof have to be met.

INFANTILE HYPERTROPHIC STENOSIS OF THE PYLORUS.

The increasing number of reports of this disease, the contentions over its surgical or medical treatment and opposing views as to its nature and cause, it is to be hoped, will soon lead to a few careful and thorough anatomic studies. The earlier conception of its fundamental congenital genesis, at least for the majority of cases, has been abandoned; this is mainly due to the absence of symptoms for varying periods after birth. In the 23 cases collected by Pritchard in 1900 there were some in which symptoms were not observed until the infants were several months old. The absence of any reports of increased connective tissue in the histologic studies of the hypertrophied pylorus is also to some extent opposed to the intrauterine development of the condition. In a small number of cases, a prenatal stenosis at the pylorus may occur, as it does in other parts of the

alimentary canal, e. g., imperforate anus or ileocecal valve.

There are reasons for believing that the name of the affection might with advantage undergo further modification—the designation congenital having been dropped—since it is altogether likely that the obstruction of the pylorus is but one phase of a series of events and does not primarily cause either the repeated emesis or the final death. Numerous instances of stenosis of the pylorus are recorded in adults; the observation by Landerer of a stenosis, the passage way measuring only 2 mm., in a man who lived to the age of 45, is a notable example. In a number of the cases reported of stenosis in infants, the obstruction was not as marked.

There are certain difficulties confronting investigation of the infantile hypertrophic stenosis; for instance, there is at present no means of determining whether, at the time of fixation of the specimen, unstriped muscle fibers are in a condition of contraction or relaxation; in consequence, those who maintain that the obstruction of the pyloric orifice is caused by tonic spasm are unable to find in the microscopic examination anything to refute or confirm such an idea. Accurate measurements of the infantile pylorus, its caliber, and the thickness of various coats, at different periods of development, are also wanting.

The anatomic change in the specimens examined is a remarkable hypertrophy of the layer of circular fibers. Whether this hypertrophy is only apparent and caused by "systole," as is urged by Pfaundler and others, or whether it is real and secondary to prolonged contractions, remains to be determined. In some instances the stenosis has disappeared with the pressure of a column of water of a certain height, implying thereby a condition unassociated with organic disease.

One direction research should take is the careful examination of the nervous system of these infants, for it is to be remembered that Yzeren was able to produce forcible and prolonged contraction of the pylorus and adjacent region in dogs and rabbits by section of the vagi. That alterations in the innervation of the stomach may be responsible for this disease of nurslings has occurred to more than one observer; examination of the nervous system, so far as we know, has not been made. Degenerative changes in the vagi, or their nuclei of origin, and consequent lessening of their inhibitory action, might result in spasm to which hypertrophy was secondary.

The number of reported cases is now over 50; two or three years ago it was half that number; of the 50, 20 have been operated on, with eight deaths. Pylorectomy, pyloroplasty, dilatation of the pylorus (Loreta's operation) and gastroenterostomy have all been performed, the last two with greatest frequency. The difficulty and high mortality attending and following surgical intervention are discouraging, and, on the other hand, good results are reported from attention to the diet. The presence of free HCl in the gastric juice, as determined by Knöpfelmacher and in a number of cases recently by Freund,[1] with their recommendation that cow's milk, raw or skimmed, be given to counteract this, also point to the eventual removal of the affection from the domain of surgery.

SUICIDES OF PHYSICIANS AND THE REASONS.

Incited by a cable dispatch from London announcing a great increase of suicides among physicians in Great Britain, the Chicago *Tribune* reviews the records for the United States, and finds for the past twelve and one-half years that a total of 519 physicians have committed self-murder. The average annual number is about 41, which has been exceeded six times in twelve years. The smallest number was 23, in 1891, while the largest number was 53, in 1893, a time, by the way, of great financial depression. A record for the first six months of 1903 indicates that the present year will probably be up to the average. The above figures, while not indicating such an increase as is reported from abroad, are sufficiently formidable as they are; they far exceed the average ratio of suicides in the general population, in this country at least, and are suggestive in many ways. In Great Britain the cause of the increase is attributed largely to depreciation of income. They suffer there from overcrowding of the profession, competition with quacks and the exploitation of the medical profession by workingmen's clubs, which has become a standing theme in our English contemporaries. In this country we have the trouble of overcrowding to even a greater extent, for here we have twice the number of physicians in proportion to the population as in Great Britain. Moreover, the world is getting healthier, and this healthfulness, again, is largely due to the labors of physicians, who are the only ones that work against their own interests continuously. Mainly through their efforts morbidity is greatly decreased and the professional income of the physician is also diminished.

We have here, moreover, greater competition with quacks and all aberrant sects, like Eddyism, Dowieism and others than do our confrères abroad, and we are annually educating, as Dr. Billings has shown, about twice the number that is required to fill the naturally occurring vacancies in the profession. It is not remarkable, in considering these facts, that failures must occur, that many of our professional brethren have to drop out of the profession in one way or another, and that weaklings, those morbidly disposed, and those lacking in high principles and moral inhibitions, might very easily adopt suicide as the most direct way to end their troubles. That more do not do this we think speaks well for the profession, both here and elsewhere.

Another reason suggested is that the physician is familiar with death in all its forms, and always has the means of suicide at hand. This is also probably worthy of consideration in connection with the materialistic tendencies which, we think, exist too much among us.

1. Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1903, xi, 309.

It is not a bad thing to be reminded of unpleasant facts, if by such reminders any influence whatever is exerted toward doing away with the evils that exist. If we know that physicians are disproportionately given to suicide under the stress of modern life, while other professions also suffering from overcrowding are not, it is well to look for the reasons. The real main factor is, we believe, the business negligence of the profession as a whole. It does not look out for its own interests as it might very properly do without in the least disregarding the interests of the public. With proper organization and regulation, which is now, we believe, fairly well inaugurated, though far from being perfected, there will be less reason, we trust, in the future than there has been in the past for suicide among physicians.

THE STRIKE FEVER.

An Indiana official has, according to newspaper reports, diagnosed the cause of the present epidemic of strikes as due to a bacillus. As far as its prevalence and apparent contagion goes, it would seem to be a rational conclusion that there is some sort of morbid virus or germ extant that produces the present outrageous condition of things. The extirpation of this particular germ, however, is a sociologic problem, not a medical one, except in so far as the mental condition of the strikers at the present time is a psychologic phenomenon that deserves some attention by the psychiatrist. There is no question, however, that if the present febrile movement continues there will be some complications calling for medical treatment. The enforced idleness of a large number of working people and their consequent financial embarrassment, will have much to do in depreciating their bodily welfare, and in causing impairment of natural immunity. Should the "epidemic" go further, the public at large will suffer. Great sociologic injury may easily result from extensive stagnation of manufacturing and other occupations, and the financial condition of the country may thus be seriously interfered with. These results are an interesting matter for study, both in their influence on present pathologic conditions of the laboring classes and on the people as a whole.

THE YELLOW FEVER ORGANISM.

Within the past two or three years the number of the animal parasites known or suspected to be the cause of disease has been notably increased, and if the extension of our knowledge in this direction continues at the same rate, we may have to modify our terminology to some extent, and instead of the name "bacteriology" as a branch of medical science, use some more comprehensive term. One of the latest additions to the list is the *Myxococcidium stegomyiæ*, which Drs. Parker, Beyer and Pothier[1] of the Public Health and Marine-Hospital Service find as a regular denizen of the yellow fever contaminated mosquito. It is true that not all the steps necessary to positively assure us of the etiologic importance of this organism in yellow fever have yet been taken, or at least, if taken, have not been published, but it has a respectable—if that be the word—standing on the suspected list. We can hope at least that it will be determinately ascertained to be the cause of this tropical scourge, and that by the further study of all its life history we can in time exact a still more efficient control over the disorder. It is something to know, or even reasonably suspect, who are our enemies, and be able to act accordingly. The authors make no claim to the discovery of the genuine organism, though they evidently are not unwilling to call attention to the fact that their discovery strongly points that way. There is an apparent advantage in the study of these pathogenic animal organisms over that of bacteria; we have in them a fuller life history to work out, and while specific characters are not as marked as in the higher organisms, there are more to characterize them in a biologic point of view than is the case with the lowlier vegetable forms. The field, however, is wide enough in both, and either may have its special advantages in the study of its life cycles and that of its toxic action and constituents.

1. Report of Working Party No. 1, Yellow Fever Institute, Public Health and Marine-Hospital Service, Washington, 1903.

RESEARCHES ON DENGUE.

In connection with the above we may say here that the catalogue of the iniquities of the mosquito is not yet exhausted. Besides its maleficent function as the transmitter of malaria and yellow fever and its general character as a pestilent nuisance, there is yet another disease of tropical and warmer temperate regions that is being credited to its mischief. The Hawaiian Board of Health has already taken action against it as a factor in the spread of dengue, and in the *Journal of Tropical Medicine*, July 1, Dr. H. Graham of Beyrouth, Syria, reports his investigations into the causation of this disease, and his conclusion derived therefrom that it is due to a protozoön conveyed and inoculated by the mosquito. He has found and studied the evolution of a parasite in the mosquito and in the blood of dengue cases that seems to him satisfactorily assured as the cause of the disease. Dengue not being a fatal or serious disorder, he found no difficulty in obtaining plenty of human subjects on whom to experiment; indeed, he says the difficulty was to select the best from the multitude who offered for the sake of the compensation paid. His experiments paralleled to some extent those of Reed and his associates with yellow fever, and though they were not so elaborate and conclusive, yet they seem, as related, to afford a very fair presumption in favor of his conclusion. The species of mosquito chiefly implicated appears to be *Culex fatigans*, but the notorious *Stegomyia fasciata*, which coexisted with it in Beyrouth and its environs where the experiments were made, is perhaps not above suspicion. The culex, however, seems pretty well convicted of being a harborer of the germ. Experiments were also made with inoculation of the salivary glands of this species, carefully dissected out and mixed with a warm sterilized normal peptonized saline solution. These inoculations produced an attack in every way similar to dengue, but so severe that he desisted from further experiments in this line. It would seem that in this way a particular concentration of the virus was obtained. Dengue organisms were found in the blood of the patient, thus removing the suspicion of septicemia in

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the case. If Graham's findings are confirmed in other parts of the world where dengue abounds, and the special variety or varieties of mosquitoes accurately determined, it will be another victory for preventive medicine over a most annoying, if not actually dangerous, affection.

Medical News.

ILLINOIS.

Personal.—Dr. Herman A. White, St. Charles, will sail for Europe August 4.

State Officials Enjoined.—Joseph Hanreddy, the lowest and an unsuccessful bidder for the contract to erect eight cottages at the Illinois Hospital for the Incurable Insane, at Bartonville, has filed a bill asking an injunction against the state auditor, the trustees of the hospital and the contractor, alleging fraud in the awarding of the contract.

Chicago.

Vaccination and Smallpox.—Of the 311 cases of smallpox which have come under observation and treatment in Chicago this year, only 39 showed any evidence of vaccination whatever, and not one of these had a recent, protective vaccinal mark; they were all adults who either showed marks of vaccination in childhood, never revaccinated, or doubtful, non-characteristic scars, as of burns or other injuries.

Personal.—Dr. N. Senn is taking his vacation in the west. He went by way of Rock Springs, Wyo., where he was the guest of Dr. R. Harvey Reed, to the Yellowstone Park, and from there will visit the Yosemite Valley.——Dr. Julius Grinker has returned from Europe.——Dr. George W. Newton and family sailed for Europe July 18.——Dr. Stanton A. Friedberg sailed for Europe July 17.——Dr. and Mrs. William Cuthbertson have returned from their European tour.

Less Contagious Disease.—Only 57 cases of the contagious diseases—diphtheria, measles, scarlet fever, smallpox, etc.—were reported during the week ended July 18. This is the lowest number since September, 1901. In the corresponding week last year there were 119, and the 34 cases of diphtheria and 14 cases of scarlet fever reported this week are one-third and one-half less than the respective number reported during the previous week. Measles, which has been epidemically prevalent for many months, is fast disappearing, as also is smallpox, the solitary reported case of which was that of an unvaccinated infant of 6 months.

Comparative Mortality.—During the first six months of 1903 a total of 15,201 deaths from all causes were reported, giving an annual death rate of 16.24 per 1,000. This is an increase of 3,103 deaths over the number for the first six months of 1902, and an increase of 18.5 per cent. in the annual rate in proportion to population. Of the causes of death showing the greatest rate of increase were typhoid fever, 154 per cent.; scarlet fever, 147 per cent.; measles, 136 per cent.; pneumonia, 60 per cent.; Bright's disease, 58 per cent.; acute intestinal diseases, 29 per cent.; suicide, 24 per cent.; consumption, 17 per cent.; heart diseases, 14 per cent. Pneumonia caused 3,133 deaths in these six months, as against 1,961 in the first six months of last year, and consumption 1,561 and 1,325 respectively.

MARYLAND.

Baltimore.

Doctors Indicted.—Drs. Robert X. Giering and Anna Giering were indicted by the grand jury, July 15, on the charge of publishing improper matter in a medical book. The former gave $300 bail; the latter is said to be out of the city.

Deaths of Last Week.—There were 124 deaths of children under 5 last week. This was nearly one-half the entire mortality, which was 251, equivalent to an annual rate of 23.41 per 1,000. There were 60 deaths from cholera infantum, and 4 each from typhoid fever and sunstroke. Consumption and pneumonia caused respectively 19 and 12 deaths.

Faculty Changes.—The following changes have been made in the faculty of the Maryland Medical College: Dr. George B. Scholl, associate professor of pathology and bacteriology; Dr. Gustavus Dohme, demonstrator of chemistry; Dr. Clarence P. Erkenbrack, lecturer on osteology, and Dr. Wilbur M. Pearce, clinical professor of diseases of children and physical diagnosis.

Personal.—Dr. Eugene F. Cordell has resigned the chair of practice in the Woman's Medical College and has accepted the honorary professorship of history of medicine in the University of Maryland.——Dr. N. G. Keirle, Jr., has resigned his position as resident physician of the Hebrew Hospital and will go abroad in August to study the Pasteur treatment.——Drs. Ridgely B. Warfield, Harry Friedenwald and Thomas R. Brown have gone to Europe.——Dr. Hunter Robb sailed for Antwerp, July 18.——Dr. Joseph E. Evans, Merion, S. C., has been appointed to the Marine-Hospital Service and assigned to duty at the Marine Hospital here.——Dr. Alfred H. Powell is again resident physician at Capon Springs, Va.

MASSACHUSETTS.

Goat's Milk for Babes.—There has been started in Malden, Mass., a goat farm for the production of goat's milk. The promoters expect that there will be a large demand for the milk, especially for the dietary treatment of sick babies.

Largest Class on Record.—More than 200 applicants took the examination before the State Board of Registration in Medicine, in Boston, July 14. Never before has so large a number appeared to take the examination for license to practice.

Personal.—Dr. Edward O. Tabor has been elected city physician of Lowell.——Drs. Ralph H. Seelye and Charles P. Hooker have resigned from the staff of Mercy Hospital, Springfield; Dr Charles J. Downey has been made visiting physician, and Dr. Harvey W. Van Allen electro-therapeutist to the hospital.

Free Antitoxin and Vaccine.—The law having been enacted which makes it the duty of the State Board of Health to manufacture for free distribution both diphtheria antitoxin and vaccine virus, the state bacteriologist, Dr. Theobald Smith, who will have charge of their production at the Bussey Institute, has gone to Europe to study the best methods of production there, specially in Germany.

Boston Deaths.—The report of the Boston Board of Health for the year ended Jan. 31, 1903, shows the lowest death rate ever recorded, 18.73 per 1,000, or .97 lower than the year before. The large items in this decrease were in zymotic diseases, 360; in diphtheria, 128; in scarlet fever, 123. Typhoid fever caused 139 deaths. Of children under five there were 3,367 deaths, a decrease of 102. The total number of deaths for the year was 10,983.

Mortality of the Week.—With the coming of the hot weather the city's death rate, which was phenomenally lower in June, has returned to more usual conditions, and for the week ended July 18 was 18.58 per 1,000. Of infectious diseases 31 cases of diphtheria were reported, with 5 deaths; 20 of scarlet fever, with 3 deaths; 16 of typhoid fever; 23 of measles, and 34 of tuberculosis with 18 deaths. Pneumonia caused 25 deaths, and heart disease 21. The number of babies under one year who died was 52, and of children under five years, 67.

Brookline's Fight Against Mosquitoes.—Brookline's efforts to exterminate mosquitoes, which seemed so successful early in the season, have met much criticism and ridicule more recently, when the wet weather, followed by humid heat, has produced a scourge of the pests everywhere. The difficulty seems to be that a large sum of money is needed to do thorough work, and that is not available to the board of health. Steady work is being done, however, both in filling in, drainage and petrolizing. An attempt may be made to enforce the town ordinance which makes a pool of stagnant water wherever found a public nuisance.

MICHIGAN.

Pitcher Acquitted.—Dr. Sheldon Pitcher, Detroit, charged with causing the death of a young woman by a criminal operation in September last, was acquitted, June 18, by a Recorder's Court jury.

Refuse to Register.—The State Board of Medical Registration has declined to register Dr. D. M. Coonley, who attained some unenviable notoriety while a student at the Michigan College of Medicine, Detroit, by alleged unethical practices, and who obtained a diploma only on his signing an agreement to go out of the patent-medicine business.

Personal.—Dr. Elliott K. Herdman, Ann Arbor, has been appointed medical inspector of schools.——Dr. Oscar L. Dales has been appointed a member of the board of health of Grand Rapids, vice Dr. Hugh Lupinski, deceased.——Drs. John H. Neary, John W. Hoffman, William S. Brownell, Moses A. Fechheimer, George W. Augustin and William P. Melody have been appointed city physicians at Detroit.

Comparative Morbidity.—For June compared with the average for June in the 10 years, 1893-1902, nephritis, scarlet fever, typhoid fever, smallpox and diphtheria were more than usually

prevalent; and neuralgia, diarrhea, consumption, pleuritis, intermittent fever, remittent fever, inflammation of bowels, erysipelas, whooping cough, cholera morbus, cholera infantum, meningitis and dysentery were less than usually prevalent.

The Most Dangerous Communicable Diseases.—Meningitis was reported present during June at 3 places; whooping cough at 43 places; typhoid fever at 65 places; diphtheria at 68 places; smallpox at 107 places; scarlet fever at 109 places; measles at 113 places; and consumption at 208 places. Meningitis was reported present at 3 places less; whooping cough and typhoid fever at the same number of places; diphtheria at 9 places more; smallpox at 20 places less; scarlet fever at 22 places less; measles at 22 places less, and consumption at 12 places more, in June, than in the preceding month.

June Mortality of Michigan.—There were 2,319 deaths reported in June, corresponding to an annual death rate of 11.4 per 1,000. The number of deaths was 414 less than the previous month. There were 378 deaths of infants under 1 year, 149 deaths of children aged 1 to 4 years and 699 deaths of persons aged 65 years and over. Important causes of death were as follows: Tuberculosis, 200; typhoid fever, 22; diphtheria, 56; scarlet fever, 10; measles, 19; whooping cough, 28; pneumonia, 128; diarrhea and enteritis, under 2 years, 65; cancer, 133; accidents and violence, 164, including 23 from drowning and 2 from lightning. There was a general diminution in the mortality from the causes given, as compared with the preceding month. Five deaths were reported from smallpox, and one death from chicken-pox.

NEW YORK.

Buffalo Personals.—Dr. William H. Callahan has been appointed health officer of Chautauqua for the season.——Dr. Roswell Park has suffered a relapse from erysipelas, but is again improving.——Dr. Marcello Hartwig is still confined to his home.——Dr. Charles Cary has returned from abroad.——Dr. Joseph W. Grosvenor has been elected president of the Buffalo Academy of Medicine.

Thousands Wanted for Consumptives.—The commissioner of charities of New York city has submitted a report on the question of establishing a municipal sanitarium for consumptives at some out-of-town but accessible locality. He recommends an appropriation of $400,000 to enable the health department and the board of trustees of Bellevue and allied hospitals to proceed with the work.

June Deaths in Buffalo.—The monthly report of the department of health shows an annual death rate of 1,282 per 1,000. The principal causes of death were as follows: Consumption, 44; cerebrospinal meningitis, 4; diphtheria, 7; typhoid fever, 9; debility, 34; cancer, 35; apoplexy, 13; meningitis, 13; valvular heart disease, 24; appendicitis, 5; nephritis, 15; abortion, 1, and violence, 29. The total deaths were 406, as compared to 364 for June, 1902. The small number of deaths from typhoid fever, in view of the typhoid fever agitation for purer water, is noteworthy.

Warns Against Second Epidemic in Ithaca.—Dr. George A. Soper, New York, who was sent to Ithaca by the State Department of Health to have charge of the sanitary measures during the typhoid epidemic, has reported to the board of health that there is great danger of another epidemic resulting from the use of infected water. There are now no less than 9 persons ill with the fever, with 5 suspected cases. He had just discovered that in a residence situated near Six-Mile Creek, a man has been ill with the fever for ten days, and that in all probability the refuse germs had washed directly into the supply from which the most of the citizens get their water. The city is practically in the same danger of an epidemic as it was in February and March.

PENNSYLVANIA.

New Hospital Opened.—The new Frankford Hospital fills a great need in one of the greatest manufacturing districts of Philadelphia. Equipment of the hospital is being rapidly accomplished through the generosity of its president, Dr. J. Bruce Burns and others.

Smallpox Situation in Hand.—The new smallpox cases for the week ended July 18 numbered 24, as compared with 54 for the previous week. The health officials will not relax their activity in fighting the disease, but will continue vigorously the campaign of vaccination and other preventive measures. They have confidence that they are getting control of the situation.

Condensed Tuberculosis.—Dr. Lawrence Flick, manager of the Phipps Institute for the Prevention and Cure of Tuberculosis, is said to have determined that a comparatively small area, east of Broad street and south of Market street, has more cases of tuberculosis than all the rest of Philadelphia. This district is teeming with foreigners, especially Italians and Russian Jews, often crowded into the filthiest tenement houses, with meager fare and less pure air.

Hospital Roof Garden.—On July 14 the new roof garden of the Philadelphia Hospital was formally opened. This roof-garden, providing the open-air life for the consumptive male inmates, was built under the direction of Director Martin. It is 30 by 200 feet, and covered with canvas, giving the appearance of a huge tent. Cots are provided for about 100 patients. Flowers and plants brighten the place. An elevator runs from the first floor to the roof. The plan is somewhat of an experiment, and a careful study of the effect of this mode of life on the consumptives is to be made.

To Prevent Tetanus.—For the week ended July 18 at least three more were added to the list of deaths from tetanus in Philadelphia, making 9 since July 4. Many deaths from the same cause are reported from Pittsburg, Reading, Harrisburg, Wilkesbarre and various points throughout the state. It is believed that the district attorney of Philadelphia will prosecute dealers who illegally sold pistols to children. The State Board of Health has instructed its committee on poisons and explosives to recommend the passage by the legislature of an act to prevent the use of toy pistols by minors.

Hospital To Be Reconstructed.—The contract has been let for $150,000 for the reconstruction of the Medico-Chirurgical College Hospital, Philadelphia. When the work is completed the building will be practically fire-proof, and the equipment will be entirely modern. The work of the hospital, now chiefly confined to emergency cases, is temporarily transferred to a series of houses nearby, owned by the institution. The college, by the will of the late Dr. Spencer Morris, formerly professor of medical jurisprudence and toxicology, bequeathed $12,250, the income of which is to be awarded annually to the member of the graduating class who received the highest general average for the degree of doctor of medicine.

Boards of Health Meet.—On July 16 the State Board of Health, with representatives of similar boards of other states, met at Marietta, Pa. Reports of inspection of the Schuylkill River were read, and some of the sources of pollution pronounced abated. Secretary Lee was instructed to file a petition with the Court of Common Pleas of Montgomery County asking for an injunction to restrain the borough of Norristown from discharging its sewage into the Schuylkill. The number of cases of smallpox for May and June in the state was 1,092, with 62 deaths, as against 1,416 cases and 61 deaths for the preceding two months. The conditions in rural districts where epidemics had prevailed were reported as much improved. Dr. Samuel T. Davis of Lancaster was re-elected president, and all the old appointees of the board were retained.

GENERAL.

Scourge of Mosquitoes in New England.—Because of the wetness of the season, there is an enormous increase of mosquitoes along the North Atlantic coast.

The Mosquito Further Indicted in Honolulu.—The Hawaiian Board of Health has decided that the mosquito is the cause or an agent in the spread of dengue which has prevailed in the territory for some months, over 1,500 cases having occurred, and will take measures for the extermination of the insects.

The Government Borax Diet Tests.—It is announced that the official report on the tests of preservatives in food, which have been carried on in the Department of Agriculture, will be ready July 29. Only borax has been administered in the food thus far. Experimentation has been suspended for the summer, and will be resumed October 1. The health of several of the men who were fed on the preserved food is said to have suffered so as to compel their withdrawal from the tests.

Yellow Fever Commission Reports.—The U. S. Commission appointed to investigate the transmission of yellow fever has reported, after six months' study, as follows:

1. That the bacteriologic examination of the blood of cases of yellow fever during life and the blood and organs at autopsy performed immediately after death in uncomplicated cases is negative.

2. That stegomyia fasciata when contaminated by feeding on a case of yellow fever forty-one and a half hours after the onset of the disease and subsequently fed on sugar and water for twenty-two days, one and a half hours, can, when permitted to feed on a non-immune individual, produce a severe attack of the disease.

3. That stegomyia fasciata, contaminated by yellow fever and after varying periods killed, sectioned and appropriately stained, presents with regularity a protozoan parasite, myxococcidium

stegomyia, that can be traced through a cycle of development from the gamaete to the sporozoite.

4. That stegomyia fasciata fed on blood from a case of malarial fever on normal blood or artificially fed does not harbor the parasite indicated in conclusion three.

Manila Medical Society.—A circular letter issued by this society calls attention to the fact that while it has been in existence only a little over a year, it now has a membership of nearly forty, including American, English and native physicians. The circular letter, sent to members of the profession in Manila who are not already members of the society, calls attention to the fact that it is "a field rich in opportunities from a scientific standpoint, and it is our duty to ourselves, to our colleagues in other parts of the world, and to suffering humanity to discuss these questions, and to give the world the benefits of our conclusions." Here in our own country we have the opportunities and the men to support and prepare a journal of tropical medicine, that will be the equal of any now issued." We understand it is the purpose of the society to establish such a journal in the near future.

Making Manila Healthy.—Surgeon-General O'Reilly has received a report showing a steady decrease in the death rate of the city of Manila as a result of the work of army medical officers. The death rate has decreased steadily from 46.80 per 1,000 for the first quarter of 1900 to 22.17 for the first quarter of 1903. Assistant Surgeon Munson says the improvement has been accomplished in spite of Asiatic cholera and bubonic plague and the existence of a largely unvaccinated population in the provinces. Cases of plague, cholera and smallpox have occurred in Manila during the present year, but precautions taken by the board of health have prevented an epidemic. Attention is called to the fact that the present annual mortality in Manila, 22.17 per 1,000, is lower than that of many cities not commonly regarded as unhealthful situated in the United States and elsewhere. According to Dr. Munson, the present death rate of Manila compares not unfavorably with those of San Francisco, Boston, New York, Glasgow, Paris, Vienna and Havana.

Factors in Spreading Typhoid Fever.—During 25 years, reports to the State Board of Health showed that typhoid fever existed in Michigan inversely as the depth of water in wells. Recently there has apparently been a marked change in this relation. From March 1 to June 30, 1903, the average depth of water in the observation well at Lansing has been over twice as much, and the typhoid fever over 80 per cent. more prevalent than the average for the ten years preceding. The unusual spread of typhoid fever in Michigan, notwithstanding the existence of conditions which hitherto favored its decline, may be due to several facts—such as that one circuit judge has decided that typhoid fever is not a communicable disease, dangerous to the public health, and some boards of supervisors have refused to allow bills for expenses incurred by local health officials for the care of indigent typhoid fever patients, thus practically putting a stop to local work, by health officials, for the restriction of typhoid fever in those parts of the state. In cities, especially in Menominee, typhoid fever is and has been a great factor in the mortality rate. Even the Detroit Board of Health takes no action to require reports from householders and physicians, or other measures for the restriction of this dangerous communicable disease, such as placarding of premises, disinfection of discharges, and of premises after death or recovery of patients.

CANADA.

Acid in Canned Meats.—The analysts of the Inland Revenue Department of the Canadian government at Ottawa, have just completed an analysis of 99 samples of canned meats. Of these 94 were all in good condition. One spoiled sample contained boric acid, and with this exception all the other samples were found to be in good condition. The only preservative discovered was boric acid, which was found in 21 samples. In no case did the quantity of boric acid found exceed the limit fixed by the British parliamentary commission, viz., .05 per cent., and in most cases it fell markedly below that standard.

The Medical Curriculum in Ontario.—At the beginning of the session of 1902-03 in the Ontario medical colleges considerable concern was manifested over the action of the Ontario Medical Council for last year in raising the standard of matriculation in this province. The Ontario Medical Council has just held its annual meeting in Toronto. It was a new council as the territorial elections had been held since last they met, and several of the old councilors had fallen in the battle. This matter of matriculation came up for considerable discussion, and was referred to a small select committee, which is to report on the subject next year. This will ensure full consideration of a difficult matter. For the first time in its history the council has adopted measures which permit the various medical teaching institutions to exercise their own discretion in determining the time which is to be allotted to instruction in a subject of the curriculum. That the customary action of the council on this point is abandoned is of great significance, for it will help very considerably in the project, now almost consummated, of building up one great medical faculty in Toronto.

Keeping Out Undesirable Immigrants.—The immigration policy of the Canadian government has recently been much discussed in parliament. Members of parliament have complained that the present policy does not look sharp enough after such minor diseases as lupus and trachoma; and they have insisted that the Canadian government ought to make arrangements with the government of the United States for mutual action in reference to the inspection of immigrants. The Canadian government immigration policy makes no provision to keep out criminals or paupers, with the result that many undesirable immigrants are permitted to find homes in Canada. During the season of 1902 4,986 persons were inspected at the port of Montreal by the United States officers, and of this number 2,028 were rejected. Of this number 419 were rejected because they were contract laborers, 812 were paupers, 8 idiots, 5 ex-convicts and 496 as having loathsome and contagious diseases. These were all dumped on Canadian soil, and none of them had been deported by the Canadian government. The statement has appeared in an editorial in a leading daily that many of our foreign-born patients in our insane asylums have been in similar institutions before coming into Canada. A comparison of Canadian and American inspection goes to show that the quality of Canadian immigration should in future be more carefully maintained.

FOREIGN.

Sir Frederick Treves will retire from active practice, it is announced in the English newspapers.

Cuba Has Little Yellow Fever.—Only three cases of yellow fever have come into Havana this year, all from Mexican ports.

The plague in Chili is spreading, having occurred in several cities, including Valparaiso. Smallpox is also spreading and occasioning much alarm.

Kraepelin Goes to Munich.—Professor Kraepelin of Heidelberg has accepted a call to Munich to the chair of psychiatry left vacant by the death of Anton Bumm in April.

Physicians in the German Reichstag.—The new Reichstag will contain seven medical members, including Drs. Mugdan of Berlin, Leonhart of Kiel and Ruegenburg of Bonn. All but two were elected by different political parties.

London Burdened with Mosquitoes.—The suburbs of London along the Thames, below the city, are said to be scourged with mosquitoes, so that outdoor life in the evening is a burden. The cause is not mentioned in the press despatches.

How Many Miles Does the Blood Travel?—The *Riforma Medica* states that with about sixty-nine pulse beats to the minute the blood flows a distance of seven miles an hour. This is equivalent to 61,329 miles a year, and in a man 84 years of age to 5,151,636 miles during the course of his lifetime.

Prize for Joannovics of Vienna.—The Brussels Académie de Médecine has awarded to Dr. G. Joannovics, assistant at the Vienna Institute for General and Experimental Pathology, the prize of $200 offered for the best work based on new experimental researches. His subject was "The Pathogenesis of Icterus."

Panhellenic Congress.—The second annual congress of Greek-speaking members of the profession was held at Athens, May 17 to 23. About 95 of the 350 members in attendance were from the countries farther east. The communications were so numerous that they required ten sessions to complete the program.

Paris Zambaco Prize.—This prize, offered by the French Society of Dermatology, was not awarded this year but an "encouragement" of $70 was given to Messrs. Bezançon, Griffon and Le Sourd for their monograph on "Bacteriology of Simple Chancre," and to Messrs. Carle and Meynet for one on "Digestive Disturbances in Eczema."

An Anti-Mosquito Plant.—Captain H. D. Larymore describes in the London *Times* a plant found in the Niger district which attracts and stupefies mosquitoes. One of these plants grow-

ing in a room frees it of mosquitoes and protects against malaria. He has officially reported the existence of the plant to the authorities at Kevy, the capital of the district.

Medical Sea Voyage.—Dr. G. Hirte of the Rheineck sanatorium at Nieder-Walluf a. Rh., Germany, will repeat this year the medical sea voyages with patients which proved so successful last spring. The first voyage will be to Buenos Ayres or Brazil and is expected to last two months or two months and a half. On his return he will start for Japan with another party for a three to four months' trip.

Proceedings of the Prussian Medical Court of Honor.—This peculiar German official institution described in THE JOURNAL, has had 211 cases before it during the last fiscal year. Of this number the complaints came from government officials in 25 instances, from physicians in 110, from the lay public in 25, and 4 were anonymous. About 80 of the suits were dismissed, 26 were compromised, in 14 a penalty or reprimand was imposed and 81 suits are still pending.

Post-Graduate Headquarters at Berlin.—Nearly $315,000 has been collected for the proposed headquarters for post-graduate medical instruction to be established in Berlin. It is to be known as "the Empress Frederick House," and from this center all the paraphernalia necessary is to be despatched to various small towns or villages as needed. These free traveling post-graduate courses which have been established in the last year or two in Germany, have already become a prized feature of German medical life.

The Radium Cancer Cure.—Considerable interest is reported to have been excited in Vienna medical circles by reports of cancer cured by exposure to the rays emanating from the remarkable substance, radium. This was mentioned editorially July 11. Now Dr. Mackenzie Davidson of Charing Cross Hospital, London, reports a case of cancer of the nose cured by the same means. Four exposures, aggregating an hour altogether, were given at intervals of a few days. In three weeks healing was progressing satisfactorily, and in six weeks the growth was all gone.

Suspension of "Memorabilien."—For forty-four years this medical journal has been published at irregular intervals of from one to several months. Dr. F. Betz of Heilbronn has been the publisher and editor and Dr. Guido Bell of Indianapolis the American collaborator. It has been principally devoted to abstracts and has borne as its motto: "Sometimes the smallest ache is the index to diagnosis and therapeutics." Dr. Betz does not care to continue the journal further, and announces its suspension with the close of 1902.

Contract Practice at Bourg, France.—The physicians of this town of 18,000 inhabitants—14 in all—found that the sickness benefit societies were materially decreasing their income while the rates paid—20c. a visit, day or night—were too low. When they asked for 40c. for an office consultation and 60c. for a call at the residence, with a reduction of 20 per cent. on the total when the bill was paid before a certain date, the societies were incensed and denounced them, and are doing their utmost to induce other physicians to move to the town and accept their rates, ignoring the physicians already settled there. To date they have been unable to do this, and our French exchanges are warning the profession at large not to "pick up the bone which the local physicians have found too bare."

Correspondence.

Regarding "The Boy's Venereal Peril."

NEW YORK, July 16, 1903.

To the Editor:—Since publication of the above-mentioned article, I have received requests for 2,090 reprints thereof. Pressure of practice renders me unable to reply individually to each one of the gentlemen who wrote me on the subject. I therefore ask the privilege of using your columns to answer all.

1. The kind sentiments which my correspondents convey stimulate me to greater efforts than ever before, so to revise the article that it may represent the best work of which I am capable. I need not tell other busy practitioners that I can not do this within the next few days. I expect, however, to have the reprints ready in about three weeks.

2. A number of those who have favored me, ask for "some" or "several" copies. If they will kindly specify how many they desire I will know how large an order for reprints I must give.

3. Many of my correspondents ask me the price of the reprints. Having written the paper to benefit humanity as much as is in my power, I do not desire to profit thereby. Moreover, being engaged exclusively in genito-urinary work, I have no inclination to earn money otherwise.

4. It is beyond my power to grant licenses to reprint "The Boy's Venereal Peril." The copyright rests with the American Medical Association, which owns all papers presented before it.

5. The paper as published in THE JOURNAL of the American Medical Association is incomplete; one reason therefor is in the fact that the remainder, being addressed to boys, is too elementary for appearance in a scientific publication. I therefore requested its omission.

6. The reprints will not contain my name or address or anything else to reveal my authorship. This will prevent such laymen as may be advised to read the paper from confounding it with the advertisements of quacks.

7. Lack of time prevents my undertaking to deliver messages, to ascertain the prices of books and other articles, or to make purchases for some of those who wrote me regarding "The Boy's Venereal Peril."

I repeat my sincere thanks to all those who gave such kind encouragement to this one of my efforts.

FERD. C. VALENTINE.

Historical Errors.

CHICAGO, July 20, 1903.

To the Editor:—In THE JOURNAL of the American Medical Association, July 18, 1903, p. 195, it is stated, under the head of deaths, that the late Dr. DeLaskie Miller of Chicago was "born in New York City," graduated from "Syracuse Medical College in 1842," which is evidently erroneous. According to reliable authority Dr. Miller was born in Niagara County, New York, May 29, 1818, and graduated from Geneva Medical College, New York, in 1842, there being at that date no medical college in Syracuse.

On page 196 of THE JOURNAL it is stated that the New Jersey State Medical Society was organized in 1776, which is evidently erroneous. According to reliable authorities that state society, the oldest in the country, was organized in 1766, and held its meetings annually until they were interrupted by the Revolutionary War in 1776; but they were resumed as early as the exigencies of the war would permit. N. S. DAVIS.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

WHAT IS IT?

CASTROVILLE, TEXAS, July 11, 1903.

To the Editor:—I wish information about a peculiar epidemic we have had here for several months. Nothing in the literature at my command helps me. We have had malaria here for three years, known to me by examination of the blood, generally examined while fresh, and showing the plasmodium and spores, and in each case the margin of the tongue shows some minute red spots, very noticeable, being of different color from the surrounding membrane and varying from a half dozen to several dozen. The other symptoms are very variable, from high fever (103 F. to 99 F.) every other day, headache, sometimes a distinct chill and sometimes not, neuralgias or abdominal pains, in fact all somewhat differently effected, but whenever the tongue showed these spots the blood showed plasmodium and spores. Quinin or methylene blue gave relief and in several instances cured the symptoms, but also in several instances the plasmodium and spores continue in the blood in spite of the continued use of quinin mixed with either arsenic or iron or both, etc. Now things have changed in respect to symptoms, although I have still, among adults, occasional cases with the above symptoms, but children here have developed a cough due to a pharyngitis with relaxed uvula that very closely simulated whooping cough; some last about a week and some are still coughing after six weeks; and now, to confuse the thing more, an erythema has developed, accompanied by fever, 102 F. or so. It is scarlatiniform in appearance, yet there is an accompanying cough and conjunctivitis and very mild coryza. The rash

lasts from two to three days, and fades when fever is low, with no desquamation, no enlarged glands and no albumin in the urine, but spores and plasmodium in the blood and the spots before mentioned on the outer margin of the tongue, which, at the same time, shows in some cases enlarged papilla. We have had scarlet fever, measles, German measles and whooping cough here, but this does not fully represent any one of them, yet resembles them all in some cases, or, rather, some one of them more particularly. I am forced to believe it is malarial. Very fortunately so far there have not been any deaths, and the bronchitis very mild that accompanies or, rather, follows the rash. I have tried to describe the condition, but it is hard; some have the cough and no rash, some rash and little cough, some itch and some do not, and the more I consult the record I have been keeping, the more confused I get when I try to compare the symptoms with any of the (to me) known diseases. JOHN T. FITZSIMON, M.D.

State Boards of Registration.

New Medical Provisions in the Virginia Law.

The legislature of Virginia has passed the following amendments to the medical practice act:

1. Be it enacted by the general assembly of Virginia that section seventeen hundred and forty-seven of the Code of Virginia, as amended and re-enacted by an act approved March 7, 1900, be amended and re-enacted so as to read as follows:

1747. *Examination of Applicants for the Practice of Medicine and Surgery; Re-examination; Fees of Board.*—It shall be the duty of the said board, at any of its said meetings, to examine all persons making application to them, who shall desire to commence the practice of medicine or surgery in this state, provided said applicant shall produce before said board a diploma or other satisfactory evidence of his graduation in some medical college or institution teaching the art of healing human diseases chartered by the state or territory in which the same is situated; provided, that any undergraduates taking a graded course in any regularly chartered medical school shall be entitled to examination in such branch or branches as he or she may present a certificate from the said college of having passed a satisfactory examination, and having once passed a satisfactory examination on each of such branches before the State Board of Medical Examiners no further examination shall be required on such branch or branches; but an applicant failing to pass a satisfactory examination on any of such branches shall not be permitted to be examined on such branch or branches until he or she presents a diploma of graduation as doctor of medicine from some regularly chartered college of medicine. And when an applicant shall have passed an examination satisfactory as to proficiency before the board in session, the president thereof shall grant to such applicant a certificate to that effect; provided, however, that any applicant professing a system of medicine which does not require the use of drugs in the treatment of disease shall be exempt from standing an examination of materia medica.

A fee of ten dollars shall be paid to said board, through such officers or members as it may be designated, by each applicant before such examination is held. And in case any applicant shall fail to pass a satisfactory examination he shall not be permitted to stand any further examination within the next six months thereafter, nor shall he have again to pay the fee prescribed as aforesaid; provided, however, no applicant shall be rejected on his examination on the account of his adherence to any particular school of medicine or system of practice, nor on account of his views as to the method of treatment and care of diseases; and provided, further, that when, in the opinion of the president of the board, any applicant has been prevented by good cause from appearing before the board, he shall have authority, in his discretion, to grant a special permit to such applicant to practice medicine or surgery until he shall have an opportunity to appear before the board in session for examination, which said special permit shall be revocable at the discretion of the president; and in no case shall it entitle the holder thereof to practice after the next regular meeting of said board.

The said board shall have, in their discretion, authority to accept in lieu of examination of an applicant a diploma or other satisfactory evidence of the graduation of the applicant in some medical college chartered by the state or territory in which the same is situated, and a certificate from the examining board of any state or territory of the United States or the District of Columbia, showing that said applicant has passed a satisfactory examination as to his proficiency, and obtained license from said board to practice medicine and surgery in said state, territory or district; provided, that any person who was examined by the state examining board prior to Jan. 1, 1900, and whose fee for such examination was duly paid, but who failed to pass said examination, shall have the right and privilege of taking the examination before the state board, notwithstanding the provisions of this act.

2. This act shall take effect from its passage.

Approved April 23, 1903.

Be it enacted by the general assembly of Virginia that section seventeen hundred and fifty of the Code of Virginia, as amended and re-enacted by an act approved March 7, 1900, be amended and re-enacted so as to read as follows:

1750. *Who Prohibited from Practicing Medicine or Surgery without Certificate; Penalty for Practicing Illegally; What Courts Have Jurisdiction to Inflict.*—No person who shall have commenced the practice of medicine or surgery in this state since Jan. 1, 1885, or who shall hereafter commence the practice of the same, shall practice as a physician or surgeon for compensation without having first obtained a certificate from the State Board of Medical Examiners and cause the same to be recorded as aforesaid, or a special permit from the president of the said board. To open an office for such purpose or to announce to the public in any way a readiness to practice medicine in any county or city of the state, or prescribe for, or to give surgical assistance to, or to heal, cure or relieve, to attempt to heal, cure or relieve those suffering from injury or deformity, or disease of the mind or body, or to advertise, or to announce to the public in any manner a readiness or ability to heal, cure or relieve those who may be suffering from injury or deformity, or disease of the mind or body, shall be to engage in the practice of medicine within the meaning of this section; provided, that nothing in this section shall be construed to apply to or to limit in any manner the manufacture or sale of proprietary medicines, or apply to, affect or interfere in any way with the operation of any hospital now established in this state, or any person while engaged in conducting such hospital now established, if there be a licensed physician resident and practicing therein, or to any person who commenced the practice of osteopathy in this state prior to Jan. 1, 1903.

It shall also be regarded as practicing medicine within the meaning of this section if any one shall use, in connection with his or her name, the words or letters "Dr.," "Doctor," "Professor," "M.D." or "Healer" or any other title, word, letter or designation intending to imply or designate him or her as a practitioner of medicine or surgery in any of its branches; but this section shall not be construed to apply to non-itinerant opticians who are at this time engaged in the practice of optometry in this state nor to professional nurses. Any person who shall practice medicine or surgery in this state in violation of the provisions of this section shall be fined not less than $50 nor more than $500 for each offense; and it shall not be lawful for him to recover by action, suit, motion or warrant in any of the courts of the state any compensation for services which may be claimed to have been rendered by him as such physician or surgeon. The county and corporation courts shall have exclusive original jurisdiction to try offenses for violations of the provisions of this section committed within their respective counties and corporations.

2. This act shall take effect from its passage.

Approved April 24, 1903.

This, as the *Old Dominion Journal* remarks, applies to faith healers, Eddyites, osteopaths, etc., all of whom must pass the examination if they pose as healers.

Deaths.

Herman Nauman, M.D. University of Jena, Austria, 1851, a pioneer physician of Milwaukee, surgeon of the Ninth Wisconsin Volunteer Infantry in the Civil War, formerly county physician of Milwaukee County, and in charge of the Marine Hospital, died at his home in Milwaukee, July 4, aged 79.

Samuel J. Radcliffe, M.D. University of Georgetown, D. C., 1852, a veteran of the Civil War, in which he served as medical director, a member of the Medical Society and Medical Association of the District of Columbia, died at his home in Washington, July 9, after an illness of seven months, aged 75.

George R. Wells, M.D. Rush Medical College, Chicago, 1886, of Livingston, Mont., died at Bethany, N. Y., July 10, from the effects of chloroform, self-administered, presumably for the relief of spinal pain, aged 41. He was a member of the American Medical Association.

William C. Bailey, M.D. Berkshire Medical College, Pittsfield, Mass., 1844, assistant surgeon of the 179th N. Y. Volunteer Infantry in the Civil War, and a resident of Adams Center, N. Y., for half a century, died at his home in that place, July 6, aged 77.

Joseph S. Cook, M.D. University of Pennsylvania, Philadelphia, 1856, surgeon of the 31st N. J. Volunteer Infantry in the Civil War, died at his home in Washington, N. J., July 4, from hypostatic pneumonia, after an invalidism of thirteen years, aged 73.

Nathan F. Brown, M.D. Detroit Medical College, 1870, a veteran of the Civil War, and a member of the Michigan State Medical Society and the American Medical Association, died at his home in Detroit, July 6, after years of ill health, aged 66.

Robert Black Ewing, M.D. University of Pennsylvania, Philadelphia, 1865, a member of the American Medical Association, and for nearly forty years in practice at West Grove, Pa., died at his home in that place, July 3, from heart disease, aged 62.

R. B. Parker, M.D., inspector on the steamer *Mount Vernon*, died from yellow fever at the government quarantine station, Ship Island, Miss., July 6, from yellow fever, with which he was stricken on his first trip to Costa Rica.

Richard W. S. Martin, M.D. Medical College of Virginia, Richmond, 1861, a member of the Lauderdale County Medical Society, died at his home in Henning, Tenn., after an illness of three years, from dropsy, July 16, aged 63.

Alonzo Garwood, M.D. Starling Medical College, Columbus, Ohio, 1850, the oldest practitioner in Cass County, Mich., died July 1, from heart disease at his home in Cassopolis, aged 78. He retired from active practice in 1901.

Charles Thomas Van Swearingen Butler, M.D. University of Maryland School of Medicine, Baltimore, 1874, of Shepherdstown, W. Va., died at the Winchester (Va.) Memorial Hospital, July 8, aged 53.

Bernard S. Simpson, M.D. St. Louis Medical College, 1897, professor of physical diagnosis in the St. Louis College of Physicians and Surgeons, died July 1 at his home in St. Louis, aged 30.

Marcella C. Baldwin, M.D. Woman's Medical College, Chicago, 1882, of Rockford, Ill., died from tuberculosis at St. Anthony's Hospital, Rockford, July 7, after an illness of eight years, aged 45.

Frank W. Morley, M.D. Homeopathic Hospital College, Cleveland, Ohio, 1884, died from inflammation of the brain at his home in Sandusky, Ohio, July 4, after a brief illness, aged 42.

W. V. Hawthorne, M.D. Medical Department University of Tennessee, Nashville, 1902, of Watertown, Tenn., died suddenly at Hot Springs, Ark., Oct. 4, 1902, aged 39.

Samuel A. Bowen, M.D. Barnes Medical College, St. Louis, 1897, died at his home in Corinne, S. C., July 4, from typhoid fever, after an illness of three weeks.

Louis A. Falligant, M.D. Hahnemann Medical College, Philadelphia, 1858, died suddenly at his home in Savannah, Ga., July 5, from heart disease, aged 66.

G. Paul Jones, M.D. Jefferson Medical College, Philadelphia, 1869, died suddenly from apoplexy at his home in Princess Anne, Md., July 6, aged 61.

James Alfred Perkins, M.D. University of Maryland, Baltimore, 1854, of Chestertown, Md., died suddenly at Germantown, Pa., July 7, aged 71.

Arthur H. Barr, M.D. Tulane University, New Orleans, 1900, of Starkville, Miss., died at San Angelo, Texas, July 6, from pneumothorax.

Willis D. Hamilton, M.D. University of Pennsylvania, Philadelphia, 1890, died at his home in Kennett Square, Pa., July 3, aged 36.

Emma H. Yates, M.D. Fort Worth (Texas) University, 1899, died at her home in Ander, Texas, June 12, from tuberculosis.

C. W. Hinchman, M.D. American Medical College, St. Louis, 1885, died at his home in Golden City, Mo., July 7, aged 72.

Frank Buys, M.D. Western Reserve University, Cleveland, 1885, died at his home in Painesville, Ohio, July 2.

T. J. Caldwell, M.D., died at his home in Lannius, Texas, July 3, from paralysis, aged 74.

William Van den Berg, M.D., 1849, died July 6 at his home in Zeeland, Mich., aged 77.

Book Notices.

THE DIAGNOSIS AND MODERN TREATMENT OF PULMONARY CONSUMPTION, with Special Reference to the Early Recognition and the Permanent Arrest of the Disease. By Arthur Latham, M.A., M.D. Oxon., M.A., Cantab., Author of the Prize Essay on the Erection of His Majesty's Sanatorium. Cloth. Pp. 215. Price, $1.50 net. New York: Wm. Wood & Co. 1903.

Our readers are probably aware that in the competition for the plans of the King Edward VII sanatorium the prize was awarded to Dr. Arthur Latham, assistant physician at the Brompton Hospital for Consumption and Diseases of the Chest. Dr. Latham has brought together a series of articles which he has published during the last few years, especially on the diagnosis and treatment of pulmonary diseases, and with especial reference to the sanatorium treatment. He has contributed a valuable memoir to the literature of this at present very much written up disorder. The book is well arranged, and contains a large amount of practical information. The author does not seem to have much faith in the opinion that there is danger in the marriage of tuberculous individuals as far as direct contagion is concerned, or of transmission to the offspring, and he thinks that by marriage tuberculous individuals are often enabled to lead a more regular life and avoid some of the more dangerous vicissitudes that threaten them. One of his concluding remarks, that the wise physician never gives a prognosis in cases of tuberculosis, is an excellent one. The disease is not one that is directly amenable to prognosis, especially when all proper means of treatment are available, and the most desperate cases sometimes recover.

INDEX-CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE, United States Army. Authors and Subjects. Cloth. Pp. 894. Second Series. Vol. VIII. Insane—Kyathospitalet. Washington: Government Printing Office. 1903.

The eighth volume of the Index-Catalogue includes the literature from Ins to Kyst, and, like its predecessors, is the most valuable summary of bibliography we have within its alphabetical limits. There is nothing else of which we know that can fill the place of the Index-Catalogue in its first and second series. It is a most creditable monument to the United States Government's interest in the general welfare of mankind.

Miscellany.

Medical Education.—The profession of medicine need not feel shame at any inquiry into the character of its regular practitioners, but only the self-satisfied among us would assert that even a higher level may not be attained. Considering the matter from the view-point of the profession, nothing could be more wholesome than a high standard of requirement for admission to membership in a body that has always been regarded by the public as one of general culture and intelligence. The country has grown rapidly and the medical curriculum has become exacting. Not unnaturally, therefore, some men have entered the profession without sufficient preliminary training. It is but natural to suppose that the exactions of the medical schools and the state boards of examiners will increase rather than decrease.—*Pennsylvania Medical Journal.*

The First Case of Appendicitis.—Dr. Howard A. Kelly of Baltimore, according to the *British Medical Journal* of July 4, has greatly delighted our French brethren by giving the credit of the first clear description of a case of appendicitis to a French surgeon. Speaking in French to the Société de Chirurgie, he said that in the *Journal de Médecine, de Chirurgie et de Pharmacie*, Mestivier in 1759 reported the following case: A man, aged 45, presented himself at the Saint André Hospital, Bordeaux, for treatment of a tumor situated near the umbilical region on the right side. The surgeon made an incision, giving issue to about a pint of pus of bad quality. The patient died. At the necropsy the cecum presented nothing extraordinary. The same could not be said as regards the vermicular appendix. There was found a large pin all crusted over and eroded. It may be inferred that this pin had been long imprisoned in the appendix, and had there set up the symptoms of the disease and caused death. A few years later, in 1776, a medical student named Joubert Lamotte published a report of a necropsy in a person who had died of tympanites. The author, after describing the symptoms of the illness, states that he had found in the vermiform appendix a foreign body as it were petrified, and in the cecum entire cherries. The necropsy having been made in September the cherry season was long past. The cherries had therefore remained in the cecum, and the petrified body is the first example of fecal calculus. The first case in the nineteenth century was published by Jadelot in 1808. In 1812 a case was published in England, and in 1813 another in France by Wegeler. In 1824 appeared a paper by Louyer-Villermay, entitled "Observations to Serve for the History of Inflammations of the Cecal Appendix." In this paper are related two typical cases, in each with a necropsy. It is unquestionable, therefore, says Dr. Kelly, that to Louyer-Villermay belongs the honor of having been the first to point out the importance of appendicular inflammation. Three years later, in 1827, Melier published a memoir on the subject, based on a case of his own, and a study of the two others related by Louyer-Villermay, and on two new ones. He described the lesions in the appendix, and had even a notion of the possibility of surgical intervention. Melier had, unfortunately, no official position, and apparently little confidence in himself. His ideas did not find favor with Dupuytren, then the sovereign authority in French surgery; otherwise one of the most brilliant triumphs of modern surgery might have been achieved 70 years earlier than it was. This is one of the many examples of the disastrous influence of the superior person on the progress of science.

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Association News.

The Committee on Medical Legislation of the American Medical Association.

The Committee on Medical Legislation of the American Medical Association met at the Holland House, New York, June 7, 1903. The following was adopted:

Resolved, By the Committee on Medical Legislation of the American Medical Association, that by virtue and in pursuance of the authority vested in it to devise means for the better promotion of needed legislation relative to the public health and to the medical profession, it hereby creates a committee.

First. To be known as the National Auxiliary Congressional and Legislative Committee of the medical profession of the United States.

Second. To consist of one legally qualified practitioner of medicine in each county of each state and territory of the United States and in the District of Columbia.

Third. To be appointed by the Committee on Medical Legislation of the American Medical Association on nomination by the president of each state and territorial medical association.

Fourth. It shall be the duty of each member of the National Auxiliary Congressional and Legislative Committee to bring all and only such matters of pending legislation as may be referred to him, either by the legislative committee of his respective state or territorial medical association or by the Committee on Medical Legislation of the American Medical Association, to the attention of the medical profession and the people of his respective county, and by every honorable means, personal and political, individual and professional, private and public, direct and indirect, secure desired action thereon by his representatives in both branches, as the case may be, of the state legislature or of the Congress of the United States. And it shall be his further duty promptly to report all such efforts on his part, first, relative to state legislation, to the chairman of the committee on legislation of his state medical association, and, secondly, relative to national legislation, to the chairman of the Committee on Medical Legislation of the American Medical Association.

Resolved, That the chairman of Committee on Medical Legislation of the American Medical Association is hereby directed (*a*) to procure from the president of each state and territorial medical association nominations for such National Auxiliary Congressional and Legislative Committee; (*b*) to formulate a list of the chief executive and legislative officers of the United States government and of the government of each state and territory; (*c*) to collate necessary information relative to the executive and legislative departments of the American Medical Association and of each state and territorial medical association; (*d*) to formulate a list of the officers of each state and territorial board of health and medical licensing board and (*e*) to secure a brief summary of proposed legislation, state and national. And he is further directed to arrange the information thus collected into a Congressional and Legislative Directory of the American Medical Association.

Resolved, That these proceedings, together with the Congressional and Legislative Directory above indicated, be published as the *ad interim* report of this committee, first, by installments in THE JOURNAL of the American Medical Association, and subsequently in book form, the latter to be issued in anticipation of the congressional and legislative season of 1903-4.

By the Committee,

CHARLES A. L. REED, Chairman.

Medical Organization.

Hill County (Texas) Medical Society.

The physicians of Hill County met at Hillsboro, July 11, and organized in conformity with the plans of the state and National associations.

Polk County (Ark.) Medical Society.

The physicians of Polk County met at Mena, June 18, and organized a county medical society with the following officers: Dr. Walter L. Magness, president; Dr. L. B. Sutherland, vice-president; Dr. Philip R. Watkins, secretary, and Dr. William P. Parks, treasurer, all of Mena.

Santa Rosa County (Fla.) Medical Society.

On call of Dr. J. Harris Pierpont, Pensacola, councilor for the district, the physicians of Santa Rosa County met at Milton, July 3, and organized a county medical society, with Dr. Charles E. McDougall, president; Dr. Wm. Austin Mills, vice-president, and Dr. Henry E. Eldridge, secretary and treasurer, all of Milton.

Whitley County (Ind.) Medical Society.

Dr. Albert E. Bulson, Jr., Fort Wayne, councilor for the 12th congressional district, met the physicians of the county at Columbia City and organized a county medical society on the basis suggested by the American Medical Association. Dr. Oliver V. Schuman was elected president; Dr. Frederick G. Grisier, secretary, and Dr. William F. King, treasurer, all of Columbia City.

Bexar County (Texas) Medical Society.

Physicians of Bexar County met at San Antonio, July 9, and organized a county medical society. The constitution and by-laws as outlined by the American Medical Association and endorsed by the Texas State Medical Association were adopted. The following officers were elected: President, Dr. Thomas T. Jackson; vice-president, Dr. William M. Wolf; secretary, Dr. Thomas E. Moore; and censors, Drs. John S. Lankford, Dabney, Berrey, and William E. Luter, all of San Antonio.

Webster County (Iowa) Medical Society.

On June 27, on call of Dr. Charles H. Churchill, councilor for the tenth district, a meeting was held at Fort Dodge to organize a county medical society. The constitution and by-laws recommended by the American Medical Association were adopted. The following officers were elected: President, Dr. Robert Evans, Fort Dodge; vice-president, Dr. Orville E. Evans, Gowrie; secretary, Dr. William W. Bowen, Fort Dodge, and treasurer, Dr. Floyd B. Olney, Fort Dodge.

Wright County (Minn.) Medical Society.

Physicians of Wright County met at Buffalo, July 2, and organized a county medical society, according to the plans of the state and National organizations. Dr. Edwin Y. Chilton, Howard Lake, was elected president; Dr. Albert F. Lynch, Monticello, vice-president; Dr. Edward A. Shannon, Buffalo, secretary, and Dr. G. M. F. Rogers, Buffalo, treasurer. Drs. Theodore J. Catlin, Delano; Arthur L. Hill, Monticello, and Timothy O'Connor, Maple Lake, were elected censors.

Societies.

Santa Clara County (Cal.) Medical Society.—At the annual meeting and banquet held in San Jose, June 17, the following officers were elected: President, Dr. William T. McNary, San Jose; vice-presidents, Drs. James T. Harris, San Jose, and David A. Beattie, Santa Clara; secretary, Dr. J. L. Asay, San Jose, and treasurer, Dr. William D. McDougall, San Jose.

Yale Medical Alumni Association.—The annual meeting and banquet were held in New Haven, June 22, at which the following officers were elected: Dr. J. Francis Calef, Middletown, Conn., president; Drs. Frederick B. Sweet, Springfield, Mass., W. S. Miller of Michigan, Edward W. Goodenough, Waterbury, Conn., Homer T. Partree, Blandford, Mass., and John Edward Lane, Hadley, Mass., of the class of 1903, vice-presidents.

Sioux Valley Medical Association.—The semi-annual session was held at Fort Dodge, Iowa, June 26. The following officers were elected: Dr. Van Buren Knott, Sioux City, Iowa, president; Drs. Charles H. Churchill, Fort Dodge, Iowa, and Frederick A. Sedlacek, Tyndall, S. D., vice-presidents; Dr. Maxwell E. Silver, Sioux City, secretary (re-elected), and Dr. Samuel A. Brown, Sioux Falls, S. D., treasurer. Sioux City was selected as the meeting-place in January, 1904.

Alumni Association of the Medical Department of the University of Texas.—The annual meeting was held in Galveston, May 30, at which the following officers were elected: President, Dr. John T. Moore, Galveston; vice-presidents, Drs. H. B. Decherd, and C. D. Cantrell, Galveston, and Miss M. Giddings, Brenham; secretary, Dr. Herbert F. Sterzing, Austin; treasurer, Dr. H. O. Sappington, Galveston; orator, Dr. S. H. Grant, Rugby, and alumni editor, Dr. Louis H. Kirk, Austin.

GERMAN GYNECOLOGICAL ASSOCIATION.

Tenth Congress, held at Würzburg, June 3 to 6, 1903.

The President, Professor Hofmeier, in the Chair.

The questions appointed for discussion were: Extrauterine Pregnancy and Prolapse Operations.

Extrauterine Pregnancy.

The addresses on the first subject were by J. Veit of Erlangen and Werth of Kiel, who discussed both the anatomy and treatment. Veit attributes the severe hemorrhage into the abdominal cavity in case of ruptured tubal pregnancy to the deportation of villi. If a vein beneath the peritoneum becomes filled with villi the blood current is arrested and the vein ruptures. When the rupture occurs the resistance at this point is

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less and the blood pours freely in this direction. The ovum is detached as a result of the stagnation of the blood current, and blood also escapes from the points where it has been attached. In abortion in the uterus the contraction of the walls tends to arrest the bleeding, but there is no contraction in tubal abortion, and the hemorrhage continues unchecked. He maintains the possibility of tubal abortion, that is, violent hemorrhage into the abdominal cavity without rupture. He prefers incision to exploratory puncture, and operates when the fetus is still in the tube, but if it has escaped from the tube he waits as long as possible. If impossible to distinguish he is guided by the severity of the symptoms. The ideal is the complete extirpation of the fetal sac. In case of suppuration, however, it is certainly better to suture it in. He chooses the vaginal route only in case of fever, and then only incises the sac. Werth thinks that the results of active and conservative treatment about balance.

In conclusion, he made an earnest plea for stricter concentration of research in the domain of ectopic pregnancy, and the restriction of the literary over-production which is spreading over wide surfaces without going deep. This over-production renders it more and more difficult for one to keep posted on the subject, and is a direct hindrance to scientific progress, for in the overwhelming mass of long-established facts which are simply brought forward and published over and over again, the really new and important results of original research are easily overlooked by those especially interested in the subject.

Sarwey, Tübingen, from an experience of 71 cases of extrauterine pregnancy believes that colpotomy should be restricted to cases of uncomplicated tubal moles without hematocele, or suppurating and purulent hematoceles.

Strassmann, Berlin, with an experience of 20 cases, urges laparotomy for every case of severe hemorrhage, or of dubious diagnosis or lack of after-care in a clinic. He warns that the uterus must never be drawn forward; it must always be able to be pushed upward. This warning was endorsed by others.

Jung, Greifswald, does not agree with Veit that it is best to wait if the fetus is dead, and operate only on renewal of symptoms. The conditions in the latter case are much less favorable for an operation. Long-continued absorption impairs the working capacity and the case frequently terminates in perimetritis. In his 86 cases he operated through the abdomen in 43, and through the vagina in the same number, with 2 deaths in each category. He always operates unless particularly favorable external conditions exist or there is reason to expect rapid absorption. He always strives to leave as much as possible of the tube or ensure the permeability of the other.

Küstner, Breslau, has operated on 154 cases of extrauterine pregnancy with a mortality of 5. He advocates exploratory puncture and reiterates that a small amount of old blood in the canula is evidence of an old extrauterine pregnancy. Wealthy women may be treated expectantly, but women of the working classes should be operated on and by the abdomen, as the formation of adhesions can thus be better guarded against.

Prolapse Operations.

The addresses on this subject were by Martin, Greifswald and Küstner, Breslau. The former ascribes the etiology of prolapse to impaired resisting power on the part of the connective tissue after pregnancy or infectious diseases or in the menopause, etc. Obstetric trauma, inflammations, tumors, are merely the incidental factor on this foundation. He does not regard pessaries as of much value for prophylaxis; the prolapse benefits as the general health improves. He advocates early operation, early reduction of the size of the vaginal protrusion and restoration of the bladder to its place. Extirpation of uterus and vagina is only exceptionally indicated, 19 times in his experience in 2,000 operations for prolapse. Küstner, on the other hand, is a partisan of pessary treatment, except for working women, for whom the ring pessary has its inconveniences. He thinks that the pessary ensures a better position than any operation. It must be worn with the uterus in a good position for a year at least, after which recurrence is rare. Treatment should be addressed principally to the retroversion; the vaginal prolapse is a secondary matter.

Ziegenspeck, Munich, has been experimenting on cadavers, trying to induce prolapse, and found it practically impossible. For this and other reasons which he enumerated, he believes that the cause of prolapse lies in the difference between the abdominal and the atmospheric pressure. When the portio vaginalis happens to lie over the opening in the floor of the pelvis, the conditions are ripe for prolapse, as it then experiences the stress of the difference in pressure and is sucked outward by the lesser atmospheric pressure.

Schauta, Vienna, described his method of treating severe cases by drawing down the uterus to the vesico-vaginal septum with extensive colpoperineorrhaphy, closing the vagina behind completely over the uterus. The important point is the strengthening of the recto-vaginal septum. Conception must naturally be prevented after this operation, and he asserts that all methods which retain the sexual function are liable to recurrence. Bumm, Halle, believes in total extirpation for women near the menopause in cases of unusually large prolapse with enterocele, of chronic metritis, erosions or ulcerations, affections of the adnexa or tumors and rebellious cystitis with cystocele. In 105 patients treated by total extirpation, 93 per cent. have regained their complete working capacity and 75 per cent. are objectively cured. His mortality has been 2 in 105, and in 176 cases reported in the literature the mortality was 6.9 per cent.

Plans for the Next Congress.

The eleventh congress will convene in 1905 at Kiel, under the presidency of Professor Werth. The special subjects appointed are: "Methods of Artificial Dilation of the Pregnant and Parturient Uterus," and "Permanent Results of Ovariotomies, with Special Reference to Tumors of Dubious Anatomy."

The association also voted by request on two subjects as suggestions for the international congress of gynecology to convene at St. Petersburg in 1905, adopting for the first, "Suture of the Abdominal walls," and for the second, "Operative Treatment of Uterine Myomata."

A detailed report of the congress appears in the *Muenchener Med. Wochft.*, June 23 and 30.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

Minutes of the Thirteenth Annual Meeting, held at New Orleans, May 4, 1903.

(*Continued from page 201*)

Report of Committee on Revision of Constitution as to the Standard of Admission.

The motion of Dr. Geo. M. Kober, that the order of program be changed so that the symposium take precedence of the report of the special committee on revision of the constitution, was lost. (Nays, 23; yeas, 21.)

The report of this committee being called for, Dr. J. M. Dodson, in the absence of the chairman, Dr. Ritchie, offered the following majority report:

MAJORITY REPORT.

REQUIREMENTS FOR ADMISSION TO MEDICAL COLLEGES.

In presenting their report on the Revision of Article III of the Constitution, the committee deems it unnecessary to enter into a very extended argument, but it may be of advantage to call attention to a few facts in connection with the matter and to set forth their reasons for framing certain portions of the amendment as they appear.

Attention is first called to the action of the Association at Saratoga, which led to the appointment of this committee. It will be remembered that the address of President Vaughan, which, among other things, recommended an increase in the admission requirements prescribed by the Association, was referred to a committee; the following action was taken in the matter of the report of that committee. I quote from the minutes: "On motion the recommendation of the committee with reference to making the standard of admission the full equivalent of a four years' high school course and the appointment of a committee to consider this matter and to prescribe the branches to be included in this course and time to be devoted to each, was adopted. It was moved to accept the recommendation that the examination of the student (for

admission) be taken entirely out of the hands of the medical school. Motion amended to lay on the table. Amendment lost by a vote of 21 against and 13 for. The original motion to accept was then put and carried. The committee recommended that Article III, Section 3, should be amended to read 'two conditions' instead of 'two or more' conditions. This recommendation was accepted on motion. The committee further reported as follows: "The committee would recommend that a special committee of three be appointed to consider the question whether the standard of admission should not be made the full equivalent of a four years' high school course, such committee to report at the meeting of the Association next year."

"On motion of Dr. Long the report was adopted as a whole, and the committee, Drs. Ritchie, Dodson and Wathen, continued, as the special committee recommended in the report, this special committee to report at the New Orleans meeting, May, 1903."

It will be observed that the instructions to this committee by the Association at Saratoga were very explicit with regard to certain things. While the minor details of the report may, therefore, be criticised, the recommendation that the requirements for admission as laid down in Article III be made a four years' high-school diploma, or a full equivalent therefor, has already been passed on by this Association.

Previous to the organization of the Association of American Medical Colleges there was a standing committee on medical education of the American Medical Association; this committee was abolished when this Association was formed, it being understood and agreed at the time that the chief object of this Association was to elevate the standards of medical education in the United States. It is believed that this organization was a factor in elevating the standards in the early period of its existence and that, at least indirectly, it assisted in securing the statutory enactments in the several states establishing the standard of attainment for medical practice. If this be true, however, the impulse given to the several state boards of health and examining boards has carried them considerably beyond the point reached by the Association, for, at the present time at least, eight states, namely, New Hampshire, New York, Pennsylvania, Ohio, Indiana, Illinois, New Mexico and Colorado refuse to recognize colleges which do not demand a four years' high school diploma or its equivalent as a prerequisite for admission. The advance made by the state boards in this direction has been very rapid and satisfactory, and the example set in the states mentioned is very certain to be followed by others in the near future. Meanwhile, this Association has remained at a standstill for more than five years, in spite of the earnest effort to secure some action which has been made at the last four meetings.

For some reason, too, the American Medical Association seems to have concluded that it ought again to take an active part in the matter of medical education, the inference being that the status of this Association, to which were relegated all matters of medical education at the time of its organization, is not satisfactory. At the meeting in Saratoga last year a standing committee on medical education was appointed which will make a report at the session about to be held. It is not known, of course, what this report will be, but that action of some sort will be taken seems very probable. It has been intimated that membership in the Association and its constituent state and county societies should be denied to those who are connected with medical schools not up to a given standard. It would be humiliating, indeed, for this Association, if standards should be established by the American Medical Association considerably in advance of the standards of this body, which has posed as the particular sponsor for higher medical education in this country.

So far from representing the relatively high standards for which it stood at the time of its organization, its requirements are utterly inadequate to meet the demands of the profession at the present time. The Association has lost the respect of the profession, its standards are entirely discredited by the better examining boards, and it may fairly be said that it is a questionable honor for any institution to be a member of it. A position in the faculty of some of the institutions here represented is a dubious distinction.

It will, perhaps, be urged against increasing the existing requirements to the standards proposed, that it is a hardship to the poor and self-supporting students who may not have had an opportunity to secure a high school education. The reply to this criticism is obvious; in the first place, the medical college is not an eleemosynary institution designed to induce poorly-prepared young men to enter the ranks of a profession for which they are not qualified. In the second place, it is a serious injustice to such a student to allow him to take up the study of medicine. With over five thousand graduates emerging from our medical colleges annually, which is at least two thousand in excess of the demand, the competition among practitioners is keen and growing ever keener; it is not difficult to foretell that the successful men in this competition will be, with rare exceptions, those who are well equipped, and especially those whose fundamental education is the most thorough. Reasonably high requirements, therefore, are primarily in the interest of the students themselves. And, thirdly, it should be said, that the self-supporting students are the ones of all others, who can afford to spend the extra time necessary to properly prepare themselves for medical study. The student who is dependent on his parents, or some one else, for his support may well be anxious to complete his course as soon as possible that he may cease to be a burden on others and become self-supporting; to the student, on the other hand, who is paying his way as he goes, the addition of one, two, or three extra years is a matter of minor importance.

That the adoption of such standards as are proposed here would be disastrous to unendowed medical colleges, seems to your committee a most surprising argument to bring forth. For what are medical colleges established? For the benefit of the members of the faculty, or of the board of trustees who may reap some financial profit from them? Surely this is not the case. No medical school can justify its existence except on the ground that it is engaged in a work that is necessary to the community and that it is being conducted in a proper and legitimate way along lines and in accordance with the standards that are demanded by the times. If the statutes and rules of the examining boards of eight of the leading states have already established higher standards, it seems to your committee that it must be a difficult task for any faculty to maintain its right to turn out students on requirements far below these demands which are pretty uniformly the very minimum that the conditions warrant.

The report of the committee scarcely needs any elaborate explanation, but it may be well to point to some things in connection with the several sections.

First, it will be noted that in Section 1 very liberal allowance is made as to what sort of credentials a student may present; they may be from a four years' high school, from a normal school, a certificate of admission to a university or college, or by examination. It is true that the institutions from which credits may be accepted are confined to those recognized by a state university. Surely one could hardly ask a more liberal proposition than this, however; some restriction must be imposed, as it is well known that the term "high school" may mean anything from less than a good grammar school to the high grade institutions of our larger cities, and similarly the term college must be defined, for as indiscriminately used in this country it may mean anything from a cheap grade business college to an institution of real university rank.

It has been suggested, however, that in some states there is no state university and in some others the state institution does not represent the highest standards. This objection seems to your committee a valid one, and we desire to propose an amendment to the article as printed. May I say, at this point, that the committee is not at all insistent in reference to the minor details of this report; indeed, we believe that certain other changes will meet objections which have been raised by members of the Association with whom the committee have conferred, and we propose, therefore, some other amendments, presently to be mentioned. The committee is strenuous only in its insistence on the fundamental requirement of a four-year high-school diploma or its equivalent. In reference to this clause, your committee propose the following amendment: "It is moved to amend Section 1 by striking out subsections A and B, as they appear in the printed report, and substituting therefor the following: '(A) A diploma from a four-year high school, or academy, or normal school, which requires for admission evidence of the completion of an eight-year course in the primary or intermediate schools.'"

It has been objected further to Section 1, (C) that because of the great lack of uniformity among colleges, it would be difficult, if not impossible, to make sure that the certificate of admission to the freshman class of a college or university is the full equivalent of a four-year high school education. It is proposed to amend this section by substituting the following: "(C) a bachelor's degree from an approved college or university."

In specifying the subjects which may be presented on examination, it has been the aim of your committee to make the terms very liberal; no branches are made compulsory which are not already included in the demands of this Association and the additional credits which may be presented to make up the equivalent of a four years' high school course cover every branch which is at all likely to be included in the high school curriculum. It is thought by some that a larger list than this and greater liberality should be provided for in these branches of choice, and, therefore, the following amendment is proposed: Moved to amend Section 1 (D) of Article III, by adding to the branches of choice, "general history, one or more years; Greek, one or more years; logic, one or more years; psychology, one or more years; Greek and Roman history, one or more years.

Section 2 is simply an explanation of the actions of this Association taken at Saratoga last year. Some objection has been made to allowing the faculty of a literary or scientific institution to conduct this examination, while the members of the medical faculty are prohibited from so doing. Your committee propose, therefore, the amendment of Section II so that it shall read as follows: "This examination must be conducted by or under the authority of the superintendent of public instruction of the city or state in which the college is located. In no case shall it be conducted by any person connected with the faculty, medical or otherwise, of the institution to which the student is seeking admission."

Section 3 is also a simple statement of the conditions to which the Association is already committed by its action at Saratoga; the existing custom of allowing a student to enter a medical school with unlimited conditions is so illogical and indefensible that comment on Section 3 seems superfluous.

Section 5 prescribes the minimum of time attendance which is possible under existing statutes; the length of session which is laid down by our present constitution, namely, six months, is one month short of that demanded by several state examining boards at the present time.

Section 6 is modified from the existing regulations only in omitting the allowance of credit to graduates in pharmacy, dentistry, and veterinary medicine. At least four boards of health, namely, New York, Pennsylvania, Illinois and Minnesota, have already ruled in accordance with the proposed amendment. We believe that the time has come when no allowance should be given for work which corresponds so imperfectly to that of the medical schools proper. The allowance of credit for work actually accomplished in a standard university or college in the course for the bachelor's degree is retained, for it is believed by a majority of your committee that this plan has been of immense service in encouraging young men intending to study medicine to take a college course as a precedent thereto. To the argument that there are many colleges and universities whose work is unworthy of credit, the reply is obvious that discrimination must be exercised by the medical schools in this regard just as in accepting credit from other medical schools, and it is believed that there is no larger proportion of unworthy institutions of general learning than there is of unworthy medical schools in this country. Many of our better colleges now offer to students courses in chemistry, physics, anatomy (even including human dissection), histology, embryology, physiology, and bacteriology which are uniformly of higher character and will average to be much more thorough than the corresponding courses offered in the medical schools. The plan of giving a flat year's credit for a degree irrespective of work done is not satisfactory and your committee would propose that another year the amendment be modified so as to give credit only on the basis of work actually accomplished which corresponds to the work of the medical curriculum; such credit should carry with it, however, a corresponding time credit. It was thought that it would be best, however, to leave the ruling in regard to college graduates as it stands for another year.

In conclusion, we beg to express the opinion that if this report errs it is on the side of leniency because the proposed amendments will not place this Association on any higher plane, so far as requirements for admission are concerned, than has already been established by statutory enactment or the rulings of medical examining boards in several states, but the effort to make any increase in requirements has been so barren of results up to date that it was thought best not to ask more than is prescribed. We beg to express the hope that the Association will place itself again in a position which will command the respect of all those who are interested in higher medical education by the passage of the proposed amendment. By nothing less than this can the Association justify its continued existence as an organization which was established and presumptively continues to exist to elevate the standards of medical education in America.

[Signed.] PARKS RITCHIE.
JOHN M. DODSON.

The following amendment was introduced by a majority of the special committee appointed for the purpose of revising Article III of the Constitution:

It is moved to amend Article III by striking out all of it and inserting in lieu thereof the following:

ARTICLE III.

SECTION 1. Every college holding membership in this Association shall demand of each student, as a minimum requirement for admission to the medical course, either (*a*) a diploma from a four-year high school or academy whose credits are accepted by a state university, or (*b*) the diploma of a state normal school having a course of instruction equivalent to a four-year high school course whose credits are accepted by a state university, or (*c*) a certificate of admission to the freshmen class of a state university or of a college whose credits are fully recognized by a state university, or (*d*) an examination in the following branches:

(*A*). English—grammar, rhetoric and composition, the equivalent of two years' high school work in this branch.

(*B*). Algebra—to quadratics.

(*C*). Latin—one year high school work, including grammar and four books of Cæsar, or a full equivalent therefor.

(*D*). Physics—one year of high school work, including some laboratory work.

(*E*). U. S. History—one year of high school work.

Besides the above, seven additional branches of the student's choice selected from the following:

1. Latin—one year; Cæsar, Cicero or Virgil.
2. German—one year; grammar and literature.
3. French—one year; grammar and literature.
4. Chemistry—one year; with laboratory work.
5. Botany—one year.
6. Zoology—one year.
7. Geometry—one year; plane.
8. Geometry—one year; solid.
9. Trigonometry—one year.
10. Astronomy—one year.
11. Physiology—one year.
12. Physical geography—one year.
13. English literature—one year.
14. Advanced algebra—one year.
15. Civics—one year.
16. General history—one year.

SEC. 2. This examination must be conducted by members of the faculty of a literary or scientific college, or by a superintendent of public instruction; in no case shall it be conducted by any person connected with the faculty of a medical school to which the student is seeking admission.

SEC. 3. A student may be allowed to enter on his medical work conditioned in not more than two branches (one year's work in each), but these conditions must be removed by satisfactory examination before he is allowed to enter on the second year of his medical course.

SEC. 4. Colleges members of this Association may honor the official credentials presented by students from other colleges having the standard requirements maintained by members of this Association, excepting for the fourth year of their course.

SEC. 5. Candidates for the degree of doctor of medicine shall have attended four years' courses of study, each annual course to have been of not less than seven months' duration and at least twelve months shall intervene between the beginning of any course and the beginning of the preceding course.

SEC. 6. Time credits may be given to students who have the necessary entrance requirements and who are graduates or students of colleges of literature, science or the arts, for such courses of instruction of the required duration as they have successfully fulfilled, excepting in the course of the fourth year, provided they pass satisfactory examinations in materia medica and therapeutics. Credit for one year of time may be given to students holding the degree of A.B., B.S. or other equivalent, from a reputable university or literary college.

SEC. 7. A college which gives less than a four years' course of study, but does not graduate students and is possessed of other required qualifications, may be admitted to membership.

NOTE.—One year's work in any subject of a high school or academic course is defined to mean a series of daily recitations, of forty-five minutes or more in time, for each week of a school year of not less than thirty-six weeks.

This amendment is seconded by the following colleges: medical department of the University of Buffalo, Johns Hopkins University Medical School, medical department of Western Reserve University, medical department of the University of Michigan, Rush Medical College, in affiliation with the University of Chicago, Northwestern University Medical School, medical department of the University of Minnesota, medical department of the University of Iowa, medical department of the University of Kansas, medical department of the University of California.

In the form finally adopted the amendment read as follows, and it was provided that it take effect July 1, 1905:

ARTICLE III.

SECTION 1. Every college holding membership in this Association shall demand of each student, as a minimum requirement for admission to the medical course, either (*a*) a diploma from a four-year high school or academy or normal school requiring for admission evidence of the completion of an eight-year course in primary and intermediate schools, or (*b*) a bachelor's degree from an approved college or university, or (*c*) an examination in the following branches:

(*A*). English—grammar, rhetoric and composition, the equivalent of two years' high school work in this branch.

(*B*). Algebra—to quadratics.

(*C*). Latin—one year high school work, including grammar and four books of Cæsar, or a full equivalent therefor.

(*D*). Physics—one year of high school work, including some laboratory work.
(*E*). U. S. History—one year of high school work.
Besides the above seven additional branches of the student's choice selected from the following, each to have been pursued one or more years:

1. Latin—Cæsar, Cicero or Virgil.
2. German — grammar and literature.
3. French — grammar and literature.
4. Chemistry—with laboratory work.
5. Botany.
6. Zoology.
7. Geometry—plane.
8. Geometry—solid.
9. Trigonometry.
10. Astronomy.
11. Physiology.
12. Physical geography.
13. English literature.
14. Advanced algebra.
15. Civics.
16. General history.
17. Greek.
18. Logic.
19. Psychology.
20. Ethics.
21. Greek and Roman history.

SEC. 2. This examination must be conducted by or under the authority of the superintendent of public instruction of the city or state in which the college is located; in no case shall it be conducted by any person connected with the faculty, medical or otherwise, of the institution to which the student is seeking admission.

SEC. 3. A student may be allowed to enter on his medical work conditioned in not more than two branches (one year's work in each), but these conditions must be removed by satisfactory examination before he is allowed to enter on the second year of his medical course.

SEC. 4. Colleges of this Association may honor the official credentials presented by students from other colleges having the standard requirements maintained by members of this Association, excepting for the fourth year of their course.

SEC. 5. Candidates for the degree of doctor of medicine shall have attended four years' courses of study each, and at least twelve months shall intervene between the beginning of any course and the beginning of the preceding course.

SEC. 6. Time credits may be given to students who have the necessary entrance requirements and who are graduates or students of colleges of homeopathic or eclectic medicine for such courses of instruction of the required duration as they have successfully fulfilled, excepting in the course of the fourth year, provided they pass satisfactory examinations in materia medica and therapeutics. Credit may be given to the holder of a bachelor's degree from a reputable college or university for any work in the medical branches which he has successfully completed in his college course that is the full equivalent of corresponding work in the medical curriculum. Such a student may be allowed to complete the course for the medical degree in not less than thirty-one months, provided that he completes the remainder of the medical curriculum in that time.

SEC. 7. A college which gives less than a four years' course of study, but does not graduate students and is possessed of other required qualifications, may be admitted to membership.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the disease seen especially in every-day practice. Proper inquiries concerning general formulæ and outlines of treatment are answered in these columns without allusion to inquirer.]

Intolerance of Milk.

Robin, in *Jour. des. Pract.*, states that milk, in order to overcome intolerance, should be given at regular intervals and in definite quantities. It is best administered hot, but not boiled. The patient should be instructed to sip it slowly and should lie quietly for half an hour after taking it, with hot fomentations over the gastric region. Diarrhea, pain, flatulence and constipation may render it difficult to keep the patient on a milk diet.

To relieve the epigastric pain and distress the following is recommended:

℞ Sodii bicarb.
Magnesiæ ustæ, āā ..... ʒi 4
Cretæ preparatæ ..... ʒiss 6
M. Ft. chart. No. x. Sig.: One to be given after each feeding of milk; or:
℞ Pil. pancreatin ..... gr. i-ii | 06-.12
Sig.: One to be taken after food.

To relieve the flatulence which is dependent on fermentation the following solution is recommended:

℞ Ammon. fluorid. ..... gr. iii | 20
Aq. destil. q. s. ad ..... ʒx 300
M. Sig.: One teaspoonful after taking the milk.

If in doubt as to the nature of the fermentation the following should be given:

℞ Sulphuris ..... gr. iii | 20
M. Ft. cachet No. i. Sig.: One after each feeding.

To correct the constipation the following pill:

℞ Pulv. aloes ..... gr. i | 06
Ext. hyoscyami
Ext. belladonnæ, āā ..... gr. 1/12 | 005
Ext. glycyrrhizæ ..... gr. iss | 09
M. Sig.: One to three such pills at bedtime.

The diarrhea may be checked by administering an infusion of strawberry root, using about twenty grains of the root at one dose, from which the infusion should be made, or by bismuth in proper doses.

Gastrointestinal Atony.

The following is recommended by *Médecine Orientale* in the treatment of gastrointestinal atony:

℞ Magnesiæ ustæ
Cretæ preparatæ, āā ..... ʒi 30
Pulv. calumbæ ..... gr. xxx 2
Pulv. vanillæ ..... gr. xv 1
M. Sig.: One half teaspoonful before each meal.

Chronic Articular Rheumatism.

E. C. Hill, in *Med. Standard*, recommends the following treatment for chronic articular rheumatism:

As a liniment.

℞ Linimenti terebinthinæ
Tinct. opii, āā ..... ʒi 30
Linimenti saponis ..... ʒiii 90
M. Ft. linimentum. Sig.: To be applied externally to the affected joints.

Internally the following:

℞ Potassii iodidi ..... gr. xx | 1.30
Vini colchici rad. ..... m. v | 30
Syr. sarsap. co. q. s. ..... ʒi 4
M. Sig.: At one dose, to be repeated after each meal; or:
℞ Liq. potassii arsenitis ..... m. v | 30
Pot. iodidi ..... gr. v | 30
Syr. simp. q. s. ad ..... ʒi 4
M. Sig.: To be taken at one dose and repeated after each meal.

In the aged and debilitated the following:

℞ Quin. sulph. ..... gr. iss | 09
Tinct. ferri chloridi ..... m. xii | 75
Elix. cascaræ sagradæ q. s. ad ..... ʒi 4
M. Sig.: One dessertspoonful three or four times a day well diluted in water; or:
℞ Potassii iodidi ..... gr. x-xx | 65-1.30
Spts. chloroformi ..... m. v | 30
Tinct. cinchonæ co. q. s. ..... ʒi 4
M. Sig.: At one dose, to be repeated three times a day, well diluted in water; or:
℞ Acidi salicylici ..... gr. xv 1
Elix. cascaræ sagradæ ..... ʒiv 15
M. Sig.: At one dose.

As an ointment the following:

℞ Acidi salicylici ..... ʒv 20
Alcoholis ..... ʒiii 90
Olei ricini ..... ʒvi 180
M. Ft. unguentum. Sig.: Apply locally.

Enuresis.

The following formulæ by Sheffield are recommended in the treatment of enuresis:

℞ Ext. ergotæ flu. ..... ʒiii 12
Ext. rhois toxicodendron. flu. ..... ʒi 4
M. Sig.: Five to ten drops every four to six hours.

In cases of incontinence due to hyperesthesia of the neck of the bladder, irritating foods should be avoided, sitz baths employed and the following antispasmodic mixture given:

℞ Ext. hyoscyami ..... ʒss 2
Sodii bromidi ..... ʒi 4
Aq. anise ..... ʒi 30
Syr. simp. q. s. ad ..... ʒii 60
M. Sig.: One teaspoonful every 4 to 6 hours. Counter-irritation by means of mustard plasters should be employed over the lumbo-sacral region.

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Treatment of Scalp Wounds.

Bayard Holmes, in *Denver Med. Times*, gives the following suggestions in the treatment of scalp wounds:

1. Shave three inches about every scalp wound.
2. Make every scalp wound a large incised scalp wound, so that it may be explored with the finger.
3. Use no probe except the index finger.
4. Trim with the scissors the edges of the scalp wound; the razor and the brush are not effective.
5. Scrape out an old wound with a sharp spoon as a part of the mechanical removal of infection.
6. Sew up clean and bloodless scalp wounds without drainage, inserting the stitches half an inch or more from the edges of the wound and tying on one side.
7. Remove the stitches at the end of forty-eight hours, being careful to cut the stitches near the skin so that none of the exposed and infected silk will be drawn through the scalp.

Trachoma.

The following treatment of trachoma is recommended by *Médecine Orientale:* An instillation of iodic acid (1 to 100) and the conjunctiva swabbed with the following solution:

R. Potassii iodidi	℥iss	6
Acidi iodici	gr. lxxv	5
Aquæ	℥iii	90

M. Sig.: Apply locally. Any granulations present should be touched with a stick of iodic acid, and the membrane massaged after applying the following powder:

R. Acidi iodici	gr. xv	1
Sodii iodati	gr. lxxv	5
Acidi borici	℥iii	90

M. Sig.: Apply locally to the affected membrane.

Pertussis.

The following outline of treatment, according to an abstract in *Month. Cyc. of Med.*, is the most satisfactory in the treatment of whooping cough: Antisepsis of the buccal and nasal mucous membrane; painting the pharynx several times a day with validol containing some oil of bitter almonds, and a 5 per cent. solution of cocain; inhalation of oxygen saturated with validol and cherry laurel water, several liters, five or six times a day; a daily change of bedroom and daily fumigation of the vacant room with sulphur; internally euquinin and belladonna:

[Validol contains 30 per cent. menthol, 70 per cent. valerianic acid, and is a nerve sedative, given internally in 10 to 20 drop doses.]

Kilmer, in *N. Y. Med. Jour.*, recommends inhalations of pure steam or creasote vapor to allay the paroxysm. This may be administered by means of the croup kettle and repeated two or three times daily. Where there is marked spasm of the glottis, inhalations of chloroform are of benefit. Antipyrin, sodium bromid and quinin are the drugs preferred by the author. For a child two years of age the following combination:

R. Sodii bromidi	gr. iii	20
Antipyrini	gr. i	06
Syr. ipecac.	m. iv	25
Aquæ q. s. ad	℥i	4

M. Sig.: One such dose every two hours for three or four days.

The patient is then given three grains of quinin sulphate every three or four hours for four days and then put back on the liquid combination.

He advises, as a mechanical measure, the use of a stockinet band similar to that employed by the orthopedic surgeon before applying a plaster-of-paris bandage. This band is made to extend from the axillæ to the pubes and fits the body snugly. This bandage is used to control the vomiting, and thus in nurslings prevents the inanition which would otherwise occur on account of the vomiting.

This band, it is stated, will also aid in aborting the paroxysmal stage as it is manifest that the paroxysms are very much milder when the band is worn. There is some liability, unless care is observed, to an eczema which soon disappears when the band is taken off.

Medicolegal.

Unnecessary Operation to Produce Sterility Warranting Refusal to Marry.—One of the defenses to the breach of promise case of Edmonds vs. Hughes was that at the time the party sued promised to marry the party suing the latter was a woman in possession of the power of procreation, and was able to bear children; that after the promise was made she voluntarily submitted to and permitted an unnecessary surgical operation to be performed upon her body, by which she was rendered unable to procreate or bear children, and would forever remain so. If this was true, the Court of Appeals of Kentucky holds that it constituted a valid bar to the woman's alleged cause of action for breach of promise to marry her.

Demonstration of Injuries to Jury by Expert Witness.—The Court of Appeals at St. Louis, Mo., says that, in the personal injury case of Rice vs. the Wabash Railroad Company, the company was loud and vehement in its complaint against what was termed the anatomical and surgical lecture of the suing party's expert witness in describing and illustrating, by reference to that party's nose, the nature of the injuries sustained. But, if the method adopted by the party suing in presenting such testimony was effective and potent, the court says, the presiding judge was clothed with broad discretionary authority in the proper course and seemly conduct of trials before him, and, in the absence of clear abuse of such power, the court is inclined to defer to his action, and assume that he properly controlled the management of the trial, and it is not disposed to hold that the manner in which the injuries of the party suing were demonstrated by the physician to the jury constituted reversible error.

Bases of Non-Liability for Negligence of Physicians.—The Court of Appeals at St. Louis, Mo., says, in the malpractice case of Haggerty vs. the St. Louis, Keokuk & Northwestern Railroad Company, that the later judgments have apparently renounced the notion that whatever immunity from the law of respondeat superior (the superior or master must answer) is enjoyed by eleemosynary trustees and corporation is allowed in order to protect trust funds and public money from outlays not contemplated by the donor or the legislature. Recent cases which exonerate charitable institutions from liability for certain negligent acts of employes, such as unskillful treatment or nursing, appear to do so on the theory that a patient, in accepting gratuitious attention of that kind, assumes the risk of injury by the carelessness of employes. But it was obvious, the court says, that neither the railroad company sued nor its relief department was the trustee of public funds put into its hands to use in a prescribed manner. Nor, in view of the regulations provided for its government, could the relief department be classed as a charity without doing violence to every significance that word bears, either in popular or legal usage. The fund administered was not a gift by the employes, who made contributions; much less by the railroad company, which did not make any unless a deficit occurred. The fund was made up from sums contributed by the members for their mutual benefit, and to be enjoyed by them if they suffered from sickness or accident. It was, in effect, a provision made by the employes to insure a stipend for them to live if they were disabled, and a benefit to their families if they died. In addition to this, if disabled by accident, their medical attendance was paid out of the fund. This strikes the court as a purely business arrangement on the part of the employes of the railroad company. To call the enterprise a charity on the part of the company itself is extravagance, when it is noted that one of its purposes, as carved in high relief on the face of the regulations, is to prevent damage suits. Enterprises much more benevolent have been excluded from the list of charities by the courts. To give such organizations as this one the legal status of a charity, and determine the employer's liability on that theory, is not only illogical, but must ultimately prove pernicious, by subverting to commercial and selfish uses principles of law designed to protect only benevolent institutions. Wherefore the court declines to accede to the argument that the party

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suing here for malpractice had no case, because, if treated by the company's physicians, he was the recipient of charity. Unquestionably, if it undertook to supply him with surgical attendance, or deprived him of a choice in the matter, it was bound to employ reasonable care to get men of average skill. But its obligation ended there, though not on the principle that it was operating a charity. In cases like this the surgeon is not regarded as sustaining in full measure the relation of servant to the railway company, which carries the right of direction and control as to the mode of doing the work. There is little likelihood of railway companies or other employers becoming careless in the selection of physicians to wait on employes; and, as their business managers and superintendents are not selected for their expert knowledge of medical and surgical matters, they are unfit to supervise the work of physicians, and therefore the doctrine of respondeat superior, or that masters are answerable for the wrongful acts of servants, cannot well be applied to such matters. These, the court thinks, are the real reasons why the courts have refused to extend the rule to them.

Requisites to Charging Wife for Medical Services.—The Appellate Term of the Supreme Court of New York says that the sole question in the case of Hazard vs. Potts was whether the wife there sued was liable for medical services which it was admitted were rendered to her husband and his family. The court says that the liability for such services was presumptively and primarily on the husband, unless the wife, by express agreement, charged herself personally with the same. Therefore, in order to charge her with liability, it was necessary to prove that she undertook liability, and that such services were rendered on her credit. The evidence showed that the services were rendered on the request of different members of her family; but, even if she had requested the rendition of any of them, such request, the court holds, would not have raised any implied promise on her part to pay for the same; but, on the contrary, since all the services were necessary for her family, and the physicians knew it, the presumption would be that she had made such request as agent of her husband. The record was barren of any evidence tending to show that the services were rendered upon her personal credit, or that the physicians, when they rendered them, told her that they would look to her for payment of the same. Under these circumstances, no recovery against her could be maintained, unless some effect could be given to testimony adduced that, after all the services had been rendered, she made two payments on account, and thereafter asked for a bill, and said she would probably pay the claim in installments; subsequently she wrote one of the physicians that as soon as she was able to go to New York she would call, and that she meant by that letter that she wanted to go there for the purpose of borrowing money from a friend; thereafter, one of the physicians and his brother called at her residence, where they at first met her husband, who excused himself by saying that his wife would be in presently and talk with them, and that she then appeared and stated that they wanted to pay the bill if given time to do so, and that she was willing to give a note, but that she could not speak for her husband, and that a day or two thereafter she told a lady that she would pay the bill. The wife, however, denied that she promised to pay such bill, but, even if she did, the court holds, such promise would not, for obvious reasons, enable an action to be maintained thereon, but might, at most, be some evidence of an agreement at the outset to pay, if nothing appeared to the contrary. Such question, however, need not be considered, since it appeared from the evidence that the physicians did not have any conversation with her about payment for the services until after they had been rendered. There was therefore no evidence in the case from which it might be legitimately inferred that the services were rendered upon the agreement of the wife to be personally liable for them. On the contrary, the bills rendered by the physicians were made out to the husband, which facts strongly tended to show that the services were rendered upon his credit alone. Hence, in the absence of an original agreement to be personally liable, the wife's alleged subsequent promise to pay for them, even if established, must be presumed to have been made in her relation of wife, and in the exercise of her implied agency to obtain medical attendance for the family. Wherefore, in the absence of proof showing an agreement on her part to be personally liable, the court holds that a recovery against her was not warranted.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

July 11.

1 *One Hundred Consecutive Cases of Myoma of the Uterus. Guy L. Hunmer.
2 *Selection of the Anesthetic: Method of Administration; Complications Encountered and How to Deal with Them. George Spencer.
3 *Observations on the Diagnosis of Nasal Sinusitis. Walter J. Freeman.
4 A Case of Double Curvature of the Spine with an Interesting Complication. Edward J. Wynkoop.
5 Two Cases of Appendicitis and Some Deductions Therefrom. E. R. Secord.
6 The Duties of the School Teacher in the Combat of Tuberculosis as a Disease of the Masses. S. A. Knopf.

1. **Uterine Myoma.**—Hunner's article is an analysis of 100 cases, including 31 colored and 69 white women. The admissions of colored women are only about one-sixth of the total, showing that myoma is nearly twice as frequent in the colored as in the white race. The youngest patient was 24, the oldest, 67. The majority were in the fourth and fifth decades of life. He remarks in regard to the caution required to distinguish between fibroid and pregnancy. Of the chief symptoms, 35 patients complained of abdominal tumor. In 2 cases this was the only symptom. Pain in the abdomen, pelvis or diaphragm was complained of by 53 patients. An increased menstrual flow was noted in 41 cases. Copious hemorrhages at or between the menstrual periods occurred in 15 patients, making 56 per cent. with hemorrhagic loss of blood. In 9 cases the hemoglobin at time of operation was 46 per cent. or lower. These all recovered in spite of the anemia. In the older patients hemorrhage was a prominent symptom in the majority and in only the minority of these cases was it of the menstrual type. One patient had undergone a double oöphorectomy eleven years before, with only temporary relief. Gastric symptoms were prominent in 6 cases. A number of patients suffered from complications. Carcinoma of the fundus was present in 3, of the cervix in 2 cases and sarcoma was present in 2, making 7 per cent. of malignant disease. Adenomyoma was present in 2 cases. Many cases exhibited complications outside the uterus and tumor involving the uterine adnexa. Six patients died, as against only 2 per cent. in ordinary gynecologic operations. In 5 of these there was serious pelvic inflammatory disease and complications. The operations performed were myomectomy in 19; panhysteromyomectomy in 14; supravaginal hystero-salpingo-oöphoromyomectomy in 40 cases, and supravaginal hysteromyomectomy, leaving one or both ovaries, in 16; vaginal myomectomy in 5 cases, and vaginal hysteromyomectomy in 6. Nine patients were treated by the method of bisection. He thinks if we can find in a series of 100 cases such a record of suffering, sterility, miscarriage, etc., one will not wonder that he announces his attitude toward myoma of the uterus as radical.

2.—This article appeared elsewhere. See THE JOURNAL, xl, title 155, p. 1263.

3. **Nasal Sinusitis.**—The diagnosis of inflammatory conditions of the frontal, antral, ethmoidal and sphenoidal sinuses is discussed at length by Freeman, who thinks that the transillumination test has been too much relied on. Frontal sinusitis is generally easily diagnosed, though there are conditions in the absence of pain, usual with free drainage, where our attention may not be directed to the proper locality of the suppuration. In antrum inflammation no sign has been as useful to him as the discovery of pus flowing over the upper surface of the posterior end of the inferior turbinal. He has also been able to make a tentative diagnosis of sinusitis by

certain well-defined odors, those of sour pus and of sulphuretted hydrogen. The symptom of intermittent cacosmia is very significant of sinus suppuration, generally of the antrum. Syphilitic necrosis in the sinus, however, may be an exception. The presence of discolored molars or bicuspids is always significant and suspicious. A capped six-year molar is always suspicious. Any tooth from the wisdom to the central incisors may be the cause of antrum inflammation. In endeavoring to wash out the antrum through the normal opening, he has found it of advantage to explore first with a delicate cotton wound-probe, the point curved downward, and he has also devised an irrigation cannula which has proven of great service to him. It is made of hard rubber and easily molded to any shape by heating and is not so uncomfortable as a metal tube. He thinks the ethmoid is not infrequently credited with trouble which is due to the antrum, and before sacrificing the middle turbinal it is due the patient to at least suspect the antrum and try irrigation. Except in atrophic rhinitis or in rare cases of deformity of the septum with accompanying lack of development of the turbinals, a direct flow of pus from the sphenoid opening can seldom be seen. Edema of the mucous membrane at the upper portion of the septum posteriorly should direct our attention to the sphenoid. The statement that the formation of crusts in the vault warrants a probable diagnosis of sphenoid disease, as asserted by Schaeffer and others, is, he thinks, misleading. Vertigo and pain at the occiput, deep in the eyes and in the ears, may be caused by disease of any one of the sinuses, and the distressing pain across the bridge of the nose considered so characteristic of ethmoid disease is repeatedly caused by manipulations within the sphenoidal cavity. In regard to ocular manifestations, he quotes Posey, who says that the general symptoms of asthenopia, which are obstinate and not relieved by glasses, should direct attention to the nasal sinuses. Freeman advises against the use of suprarenal extract in examination for sinus suppuration, as the blanching of the surfaces prevents the recognition of small amounts of secretion. He has found it useful to have the patient close the opposite nostril and sniff and blow alternately. This draws the pus rapidly from the sinuses and saves time. The morning is the best time for detecting pus from the frontal and ethmoids and the evening for secretion from the antrum and sphenoid.

New York Medical Journal.

July 11.

7 Report of a Case of Pernicious Anemia with Marked Ptosis of the Abdominal Viscera. C. Bertram Gay.
8 *Humeroacromial Suture for Habitual Dislocation of Shoulder. Carl Beck.
9 A Device to Protect Against Infection in Operations on and Around the Rectum. J. M. Lynch.
10 *Intravascular Antisepsis. (Concluded.) Charles G. Barrows.
11 Mental Aberration Consequent on Pelvic Disease—Cases. L. G. Hanley.
12 *The Source of Typhoid Fever. Charles F. Davidson.
13 The Peculiar Case of Lam ah Chan. J. A. Guthrie.
14 *Radiotherapy in Enteritis and Colitis. Sinclair Tousey.
15 *Some Observations on Stacke's Operation. Thomas R. Pooley.

8. **Shoulder Dislocation.**—Beck reports a case where, on account of a recurrent humeroacromial dislocation of the shoulder, he operated by exposing the acromial surface of the capsule, which was found to be so much relaxed that a fold could be taken up and contracted by making a purse-string suture in it. At the same time a hole was drilled into the head of the humerus and into the acromion and a medium silver wire carried through it to ensure retention of the head by adhesion formation. There was no evidence of rupture of the supraspinatus muscles, or infraspinatus, causing rupture of the capsule or any abnormality of the joint. The operation was followed by no reaction and when the wire was removed five weeks later the result was good. Six months after operation it appears perfect.

10. **Intravascular Antisepsis.**—Barrows continues his article on the formaldehyd treatment of septicemia and mentions its advantages. He quotes, in conclusion, from Sajous, that it has an effect in stimulating the adrenal system if used in moderate doses.

12. **Typhoid Fever.**—Davidson has studied a number of cases of typhoid occurring in his practice and finds in every instance evidence of a water-borne infection. He does not pretend to say that infected fruit and vegetables might not sometimes be responsible; they may lie on the ground and come in contact with infected water from some source or other, but so far as his observations go, he has not been able to trace a single case to anything except an infected well.

14. **Radiotherapy in Colitis.**—Tousey has begun the use of electrotherapy in certain cases where there is a chronic condition of pain or discomfort with frequent mucous and occasionally bloody discharges and false membranes, and which have failed to yield to the use of intestinal antiseptics. The way he made the applications has been by having the patient lie flat upon an examining table with the surface of the abdomen exposed, and with an *x*-ray tube supported eight inches from the surface, with the rays directed principally to the painful part. At this distance the exposure may last for three to five minutes for the first treatment and may be gradually increased in duration. He takes precaution to use a large tube, 40 cm., and to avoid allowing the platinum disc to become red hot. To avoid this it is necessary to turn off the current several times during a long exposure. We must consider the character of the parts exposed to the light, the degree of vacuum in the tube as well as the duration and frequency of the applications. The parts which it is not desired to influence should always be protected by sheet-lead or something else opaque to the *x*-ray. In addition to the *x*-ray proper he has made other applications by means of glass vacuum tubes connected by a thoroughly insulated wire with one pole of the great Ruhmkorff coil, which should form part of the *x*-ray outfit. When the current is turned on such a tube is filled with a wave of light passing from the rheophore toward the bulbous extremity, which is in contact with the skin, and the patient receives, with hardly any sensation, a wave-like discharge of very high voltage and considerable amperage. The connection is with only one tube of the coil. The tube is provided with an insular handle for the use of the operator. If removed from the skin a shower of sparks passes from the vacuum tube and does not seem to produce as good results as the direct contact, and is more disagreeable. Direct application is almost without sensation, but the patient can give another person quite a spark by touching him. He has had his patient, more or less, completely insulated, but is not certain as to the importance of this point. The cases under treatment seem to show an improvement, perhaps on account of the novelty, as the author suggests, but his expectation of lasting benefit is not so much on account of the germicidal action of the *x*-ray as on account of the stimulating and altering effect of the combined application of the *x*-ray and the high tension discharge from the vacuum tube.

15. **Stacke's Operation.**—The radical mastoid operation generally known as Stacke's is criticised by Pooley, who points out the following dangers of the procedure:

1. The wounding of the facial nerve, dura, lateral sinus and the semicircular canals.

(*a*) The facial nerve may be wounded on account of its anomalous position, carelessness in chiseling too near the floor of the external canal, or the too tight packing of the wound.

(*b*) In using the middle ear curette it must not be forgotten that the tympanic walls are often very thin from necrosis and the internal carotid artery, as well as internal jugular vein, are imperfectly protected and liable to be penetrated.

(*c*) In carrying the operative procedure upward and backward the semicircular canals must be avoided.

2. In contemplating this operation it must be taken into account that a radical cure is by no means always obtained by one operation. A second operation, or even a third or fourth, may be necessary, in order to obtain a complete cure of the otorrhea.

3. The length of time required for the healing process may vary from three to six months. And lastly,

4. The possibility of permanent impairment of hearing in patients who, before the operation, could hear fairly well.

Considering these and the uncertainty of cure, together with the long duration of after-treatment, he thinks every case of chronic otorrhea should be carefully studied before being subjected to such severe operative procedure. While he does not wish to detract from the merits of the operation, he does not think all cases of chronic otorrhea should be indiscriminately so treated. In spite of the present opinion against the cure of otorrhea by medication, removal of polypi,

and intratympanic curetting, he holds that each of these methods often meets with success. Many cases of chronic suppuration of the middle ear can be healed by vigorous antiseptic treatment, removing granulations, cholesteatoma, etc. He summarizes his view as to when operation should be performed as follows:

> The objective indications may be grouped under two forms: any case of reinfection or of a rapid extension of a chronic otitic process, or whenever a grave complication is threatened; the indication is then for immediate operation.
>
> The indication is not immediate when the patient suffers little or no pain and there is no striking symptom in the mastoid, but even here the indication may be operative. If the osseous lesion is extensive. The subjective symptoms are: persistent and recurrent pain in the ear or mastoid process, with persistent and fixed pain in the parietal or occipital region, increased by percussion, which frequently points to temporal or cerebellar abscess; vertigo, either permanent or intermittent attacks, which may be due to erosion of the external semicircular canals, and well-marked brain symptoms, such as headache, heaviness, pressure, torpor, loss of consciousness, etc.

Medical News, New York.

July 11.

16 *Stomach Vertigo. Charles S. Fischer.
17 *Notes on the Selection of a Climate for the Treatment of Tuberculosis. Russell Bellamy.
18 *Hypnotism and Hysteria. Wm. B. Pritchard.
19 *Dry Superheated Air in the Treatment of Septic Infection. Clarence E. Skinner.
20 *The Sanatorium Treatment of Tuberculosis. (Concluded.) Herbert M. King.

16. **Stomach Vertigo.**—The various theories of stomach vertigo are reviewed by Fischer, who thinks it is unproven that there is any relation between abnormal gastric secretion and vertigo. He has taken from his own records a number of cases bearing on this point, and finds that both subacidity and acidity may exist with this symptom and not much difference in proportion from those that occur with normal gastric findings. There is very little relation between gastric acidity and vertigo in his opinion. The simplest clinical indications of gastric irritability are pain and nausea, and it would be interesting to know in what proportion of vertigo symptoms these two symptoms are pronounced. From his own observations it would seem that very little causative relation exists between gastric irritability and vertigo in inflammatory affections of the stomach, nor does he find that atony or gastroptosis seem to have very marked relations, though each may have its effect. That vertigo should be associated most frequently with atony is comprehensible, as atony is the most frequent pathologic condition in chronic gastric disease. Autointoxication is also doubted, as it can not explain all cases. He makes the classification of vertigo into: 1. Those in which it is intense and is the only prominent nervous system. 2. Those where it is associated with intense palpitation, precordial fear, dyspnea, and possibly syncope, following isolated acts of indiscretion in diet. 3. Cases where it occurred as a momentary sensation in the course of well-defined pathologic conditions in the stomach. The first class assumes the existence of a chronic gastric disease with or without dyspeptic symptoms. There are no specific gastric states with which this type can be directly connected and fortunately the cases are rare. The second type is more frequent, but can hardly be justifiably called gastric vertigo, for the latter is not the principal feature of the attacks. Many of them occur very soon after meals, thus eliminating the possibility of fermentative and putrefactive changes. The third class comprises those cases in which the vertigo is associated with chronic gastric diseases as a momentary sensation. These are numerous, but the causative relation of gastric disorder is often very obscure. There is generally an accompanying neurosis. The author is inclined to think that the vertigo is due either to external influences affecting the special senses, or originates in the central nervous system as the result of a predisposition engendered by mental depression or irritability. Fischer seems to consider that the stomach has been credited with more than is properly its due in these cases.

17. **Tuberculosis.**—Bellamy describes the climates of New Mexico, Colorado and Arizona, and in summing up their advantages offers the following points: 1. Consumptives with a rapid breaking down of lung tissue should avoid high altitudes, although he has heard of many cases being taken 2, those with especially developed cardiac lesions, with a marked tendency to a disturbance of cardiovascular balance. 3. Those completing the fifth decade, where the capacity of muscular exertion is considerably limited, should avoid high altitudes, although I have heard of many cases being taken to Colorado, recovering and taking up their life there. 4. Laryngeal cases do better at the low altitudes.

18. **Hypnotism in Hysteria.**—Pritchard advocates the utility of hypnotism, although there seem to be some contraindications such as delusional insanities and organic and toxic nervous diseases.

19. **Superheated Air in Sepsis.**—The good effects and mechanism of superheated air in cases of sepsis are described and illustrated with cases by Skinner. The mechanism is, according to him, through the reflex stimulation of the vasomotor tracts relieving stasis and lessening pain, augmenting the nutrition by stimulation of the trophic centers, the raising of temperature, disturbing the conditions favoring propagation of micro-organisms and stimulating the integumental emunctories to increased function. He doubts there being any danger from local hot air applications in localized infections. He has never heard a logical defense of this charge and has never heard of an authentic case where there was any satisfactory evidence that such a result was properly attributable to hot air. There is no hard and fast rule as regards the duration of application and the intensity of the heat. Overstimulation should be avoided. In non-febrile cases and those exhibiting only a low degree of febrile action, it is usually an indication that sufficient influence has been induced when the mouth temperature has been increased 2 F. above the normal or the pulse has been accelerated to 120 or 130 beats. Other measures should also be employed, such as electricity, the judicious regulation of diet and of the excretory functions, proper surgical dressing, etc. While hot air is a good thing in septic infection it is not invariably a sure thing. It will cure unaided and alone many cases. Others will require all the remedial sources at our command.

20. **The Sanatorium Treatment of Tuberculosis.**—King concludes his article and sums up that sanatorium treatment consists in placing the patient in the best possible environment to aid resistance and counteract the effect of waste and toxins. This is done by: 1. Securing increased sunlight; 2. enforced rest in the open air day and night; 3. increased consumption of proteids; 4. accurately governed exercise; 5. constant and unremitting medical supervision. If this can be had at home, so much the better, but he has rarely found it possible.

Medical Record, New York.

July 11.

21 Some Recent Methods of Intestinal Anastomosis. George G. Ward, Jr.
22 *The Physician and the Ophthalmoscope. Francis Valk.
23 *The Cystoscope; Its Indications and Contraindications in Genito-urinary Diseases. Follen Cabot and Henry G. Spooner.
24 A Case of Paraffin Injection Into the Nose Followed Immediately by Blindness from Embolism of the Central Artery of the Retina. Lee M. Hurd and Ward A. Golden.
25 Some Practical Remarks on the Management of Breech Presentations. Joseph Kucher.

22. **The Ophthalmoscope.**—Valk describes the methods and use of the ophthalmoscope and what it reveals, and calls attention to the importance of the physician's understanding the use of this instrument.

23. **The Cystoscope.**—Cabot and Spooner describes the cystoscope and its use, pointing out that the physician must learn not only how to insert the instrument, but also how to interpret the images seen. It should never be used until we have acquired an accurate knowledge of the length and caliber of the urethra and tested the capacity of the bladder. It is in bladder diseases that its principal value exists, though it may be of use as an aid in the diagnosis of diseases of the prostate gland. In case of foreign body it may aid a doubtful diagnosis. It is contraindicated in nearly all cases of acute cystitis and probably in tuberculous cystitis, though it can at least tell us the extent of the involvement, when it can be employed without too much aggravation of painful symptoms, and it alone reveals ulceration.

Boston Medical and Surgical Journal.

July 9.

26 *Subparietal Injuries of the Kidney. (To be continued.) Francis S. Watson.
27 A Case of Acute Epididymitis in an Undescended Testicle, with Gonococci Demonstrated in the Excised Organ. Fred T. Murphy.
28 The Nernst Lamp for the Production of Ether Waves for Use in Therapeutics. William Rollins.
29 A Case of Malignant Endocarditis with Meningitis, Pneumococcus Infection. L. C. Miller.

26. **Subparietal Injuries of the Kidney.**—An experience of 6 cases led Watson to investigate the subject. He has collected, formulated and analyzed clinical data from 660 cases, including all previously published series of importance and all but about 78 individual cases scattered through the literature, which are inaccessible to him at this time. Kidney lacerations may be due to muscular action alone and to apparently very inadequate force. Eleven cases of this character were found and are given in brief. In 20 cases the injury was the result of blows upon the abdomen. Where a single intraperitoneal organ was injured in association with the lacerated kidney, in all instances it was on the same side as the kidney injured. Abdominal symptoms, such as are usually associated with peritonitis, occurred in 18 cases, in 8 of which operation demonstrated the absence of any intraperitoneal complication, and in the other 10 the symptoms subsided so rapidly as to exclude such. Such symptoms are not infrequently seen in conditions which appear to be abdominal muscular contusions only. In a larger number of cases, the abdominal symptoms did represent intraperitoneal complications. Tumor in the loin appeared in 111 out of a total number of 486 uncomplicated cases, chiefly caused by hemorrhage in the peritoneal tissues. In other cases the tumor was due to traumatic hydronephrosis or perinephritic abscess. When due to perirenal extravasation it may appear almost immediately and frequently within one or two days. Subparietal injury of the kidney is rather an infrequent condition. Out of 2610 autopsies at the Middlesex Hospital in ten years there were but 12 cases. Other hospitals show similar proportions. Nevertheless it is evidently the most frequent resulting lesion in the abdominal viscera in cases of abdominal contusion, as shown by Makins' table of such cases. In a few cases it may be due to direct impaction of the ribs. In others it would seem probable that it may be due to hydraulic pressure acting through the full vessels and pelvis and causing rupture, as alleged by Küster, quoted by Morris. The regenerative power of the organ and its ability to keep up the function under such circumstances is remarked upon. The hemorrhage may occur either as hematuria, perirenal, intrarenal or intraperitoneal, the hematuria being the most common and present in at least 80 per cent. of all cases. It may last for considerable periods, even up to fifty days or more as in one case reported, but the average time is eight days according to records. Perirenal hemorrhage may be spontaneously arrested by pressure on the parts or by thrombus formation. Injury to the renal blood vessels occurred in 4 cases. Morris has collected 19 cases of aneurism of the renal vessels. Suppuration seems to be variously estimated as regards frequency. It was noted in 68 cases out of 486 uncomplicated ones. The most fatal factor, however, was hemorrhage, which was responsible for 25 deaths out of a total number of 112 uncomplicated cases which ended fatally. Laceration of the peritoneal or intraperitoneal organs is the most fatal complication, and is usually due to intraperitoneal hemorrhage. The total number of cases of this complication was 62, and the total number of deaths 48, intraperitoneal hemorrhages causing death in 36 of these 48, or a little over 66 per cent. Twenty-five of the 112 deaths of the 486 uncomplicated cases were due to suppuration. Anuria caused death in 10 of the series in which but one kidney was injured and the other normal. In several others, death resulted from laceration of both kidneys and in 4 there was only one kidney. There were 9 deaths referable to peritonitis in the uncomplicated cases, 5 of these having injuries of the abdominal organs associated with that of the kidney. As regards treatment, it would appear from analysis of the 487 uncomplicated cases that the smallest percentage was in those operated on otherwise than by nephrectomy; the percentage here was only 7. Expectant treatment gave a little better percentage than nephrectomy. (The article is to be concluded in a coming number.)

Cincinnati Lancet-Clinic.

July 11.

30 *Absence of Gastric Juice; Its Significance and Treatment. Henry W. Bettman.
31 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

30. **Achylia Gastrica.**—This disorder, which is generally a benign one, is described by Bettman, who calls particular attention to the peculiar vomiting and characteristic emptying of the stomach after test meals. The particular type of vomiting, characteristic of achylia, as he portrays it in two typical cases, has not been described by other writers. It occurred from two to three times every twenty-four hours, fluid being ejected with marked force and without warning. The author remarks that only under certain conditions is it difficult to distinguish achylia from cancer. In the latter, pepsin can be demonstrated in the large proportion of cases, and the actual dyspeptic symptoms are very much more marked. The blood changes are characteristic, and hematemesis, tumor, belching, lactic acid and the bacteria of the gastric contents are all wanting in achylia. The chief symptom in common is progressive loss of weight. In all cases of achylia it is well to think of the possibility of cancer, though so far as he knows no case has been reported where cancer was its result. In treatment we should consider first the activity of the motor function and that intestinal digestion is usually sufficient. Treatment, therefore, consists in an intelligent effort to ignore the stomach altogether. Where gastric irritability exists, lavage is indicated, and irritating substances should be avoided in the diet. Where the symptoms are chiefly intestinal, the diet should be directed entirely to them. Bettman finds that meat is excellently tolerated. He has had cases recover completely on a diet in which meat and raw eggs predominated. Flatulence may contraindicate milk; in other cases it may be well borne. Drugs are not indicated except for special conditions.

St. Louis Medical Review.

July 5.

32 Practical Points in the Treatment of Angina Pectoris. A. C. Griggs.

Virginia Medical Semi-Monthly, Richmond.

June 26.

33 *The Gall Bladder as a Source of Danger. M. M. Johnson.
34 Adrenalin in Eye, Ear and Nose Work. T. W. Moore.
35 Some Cases Illustrating the Treatment of Diarrheal Affections with Tannigen. N. G. Price.
36 The Country Practitioner and What He Can Do for His Patients as a Specialist. John R. Cook.
37 Heat Exhaustion. William F. Waugh.
38 Some Experience with Diphtheria and Its Treatment. O. M. Patterson.
39 Notes on Syphilis. Presley C. Hunt.
40 Some Observations on the Treatment of Pulmonary Phthisis in Private Practice. H. J. Chapman.
41 Successful Case of Pigskin Grafting. Wm. Fiegenheimer.
42 The Mineral, Animal, Vegetable and Spiritual Kingdoms of Food. Ephraim Cutter.

33. **The Gall Bladder.**—Johnson holds that the gall bladder is useless and dangerous, and that it should be removed in all cases where the biliary and common ducts are unobstructed. The most important factor in the production of gallstones is the lack of proper drainage, due to the anatomy of the parts or the presence of bacteria. Cholecystitis is the most dangerous condition for which we are called on to operate, and it is the only one in which a stone lodged in the cystic duct should be left for a secondary operation. He does not think there is any history of cases of reformation of gallstones after operation.

Interstate Medical Journal, St. Louis.

May.

43 *A Method for Radical Cure of Vesico-vaginal Fistula Without Loss of Vesical Tissue. R. F. Amyx.
44 *The Healing of Granulating Surfaces by Application of Cobalt-aurate Animal Membrane. Warren B. Otten.
45 Cerebral Softening or Encephalomalacia. John Punton.
46 Extrauterine Gestation—Report of Three Cases. C. E. Ruth.

43. **Vesicovaginal Fistula.**—Amyx describes a method of treating vesicovaginal fistula by dissecting a circular flap around the fistula and inverting it and stitching it into the bladder by carrying the stitches inward through the urethra. It is useful for small fistulas. In larger openings, one-half to

one inch in diameter, he would recommend a wider dissection of the circular vaginal flap. The after-treatment consists in inserting a soft rubber catheter in the bladder for drainage, and at the end of fifteen days the interrupted silkworm-gut sutures are removed. The catgut anchor sutures attached to the pubes are absorbed on the fourth or fifth day. He thinks the operation has the advantage of no loss of vesical tissue. A portion of the vaginal mucous membrane is used to lengthen the tract so that a long invaginated tract can be obtained. The large area of freshly exposed surface is obtained for the purpose of repair in the invaginated portion.

44. **Cobalt-Aurate Membrane.**—Outten recommends the use of gold-beaters' skin put in hot sterile water, from 98 to 100 F., then inserted into a solution of cobalt and gold chlorid, 1 ounce and 1 dram respectively in 10 ounces of distilled water, and 2 ounces of oil of cassia is added after the membranes are immersed. They turn a dark, purplish hue, showing a deposition of the chemical salts. They are kept in wide-mouthed, glass-stoppered bottles, and when used on granulating surfaces are cut out the size of the surface; after being washed in alcohol and hot water to remove the cinnamon oil, they are punctured and put over the wound, and then covered with six or eight layers of sterile gauze. Another piece of membrane is applied on top of the gauze, and above this a bandage of sterile cotton. The dressing thus applied may be allowed to remain undisturbed for at least forty-eight hours. Within twelve or fifteen hours after the application of the cobalt-aurate membrane on any granulating surface, the membrane in contact with the granulation is completely absorbed with no vestige remaining. The granulations assume a bright, vivid, healthy hue and the epithelial border appears to be stimulated in a remarkable manner. The chemical agents contained in the meshes are deposited on the surface of the granulation. As an aid in the perfect establishment of skin graft, he thinks the method is ideal.

Chicago Medical Recorder.

June 15.

47 *The Surgical Pathology of Genu Varum and Genu Valgum. Wallace Blanchard.
48 *Continuous Intra-uterine Irrigation in Grave Puerperal Sepsis with Report of Case. Edson B. Fowler.
49 The Principles of Medical Gymnastics. Walter M. Fitch.
50 Report of a Case of Traumatic Tetanus Treated with Anti-tetanus Serum. W. A. Kutlewski.
51 Report of a Case of Congenital Pulmonary Stenosis with a Discussion of the Case. Ellis K. Kerr.

47. **Genu Varum and Genu Valgum.**—From a study of these conditions with illustrations by skiagrams, etc., Blanchard holds that epiphysiolysis is hardly worthy of consideration as a remedy as compared with either osteotomy or osteoclasis. That osteotomy has some slight dangers from which osteoclasis is free, and the comparatively prolonged time required for bone union and recovery should condemn it when osteoclasis is available.

48. **Puerperal Sepsis.**—Fowler reports a case of puerperal sepsis treated by continuous intrauterine irrigation, and gives the advantages of the treatment. He does not think there is much danger of forcing septic fluid through the fallopian tubes with the pressure used. No case of air embolism has been reported, though other emboli have been in three cases. Hemorrhage is not serious, and while puncture of the uterus has occurred twice by the use of the hand bulb syringe, no such accident has occurred with the fountain syringe. Most of the symptoms of shock may be prevented if the irrigations are taken slowly with the cervix dilated and water at 100 F., gradually lowered as needed. He thinks all serious objections to this treatment can be overcome by the use of sterile water at a proper temperature and pressure for the case in hand.

Journal of Cutaneous Diseases, New York.

July.

52 A Case of Chronic Purpuric Erythema (Eight Years' Duration) with Pigmentation of Skin and Enlargement of Liver and Spleen. William Osler.
53 *"White-spot Disease." James C. Johnston and Samuel Sherwell.
54 *Sarcomatosis Cutis. Grover W. Wende.
55 *Parapsoriasis. L. Brocq.

53. **White-Spot Disease.**—Johnston and Sherwell report a case of this condition, which they find to be a pure degeneration of the skin, limited to the papillary body and the upper portion of the reticular layer. The whiteness is probably due to the translucency of degenerated skin, which is opaque in the reflected light. The disease should be classed with the atrophies, next to symmetrical atrophy, which perhaps closely approaches it. The name "white-spot disease," which Westberg gave it in 1901, is characteristic enough to be retained. The spots are arranged like beads on the chest, very slightly raised above the surface and smooth. The color is the dead white of snow. In the course of time some of these undergo involution and scaly separation. There is left an atrophic area exactly corresponding to the spot which preceded it.

54. **Sarcomatosis Cutis.**—Wende's conclusions are given as follows:

1. Sarcomatosis cutis (Kaposi), which is now designated as sarcoid growths of the skin, is clinically recognized as having its own individual characteristics. 2. It chiefly attacks adults. The initial lesions are small papules deeply seated in the skin. These gradually develop to a certain size, when some break down, suppurate and end in exuberant granulations. 3. Histologically it consists of a round-cell infiltration primarily existing in the deeper layers of the skin, around the blood vessels, hair follicles, sebaceous glands and lymphatic spaces. While this is suggestive of true sarcoma, it may present the inception of granuloma. The etiology is at present obscure; apparently we have to do with an infectious disease. 4. While there is a strong resemblance microscopically to mycosis fungoides, the clinical appearance is so entirely different that one need not hesitate to exclude that affection from consideration, it being separate and distinct from this. The theory of syphilis is contraindicated by the clinical appearance and therapeutic test. Lymphoderma and blastomycetic dermatitis are excluded by the microscopical findings. Carcinomatosis cutis is also ruled out by the microscope, although the clinical appearances in the two are very similar. 5. Taking into consideration the spontaneous disappearance of the tumors; the limitations of the growths to the skin without any remarkable tendency to infiltrate of the surrounding tissue; the non-involvement of lymph nodes or metastasis, and the fact that the malady remains a cutaneous disease, the conclusion is forced on us that the present case far more closely resembles granuloma than true neoplasm.

55. **Parapsoriasis.**—This name is given by Brocq to a type of dermatoses first described by him as *erythrodermies pityriasiques en plaques disseminées*, which he subsequently included under the term parapsoriasis. He gives the history of the affections. They have certain features in common. Histologically this group is characterized by an infiltration of round cells about the dilated papillary vessels, flattening of the papillæ and a marked tendency to their disappearance; by a marked edema of the upper layers of the derma, and of the epidermis; by almost complete disappearance of the germinative layer; by a dilatation of the intracellular spaces in the prickle layer; by an edema of the granular layer, which is wanting in places; by the absence of the stratum lucidum, and by the absence of nuclei in the horny layer, except over the places where the germinative layer is absent. The lesions are characterized by their long duration; the slowness of their evolution; their torpidity; the slight disturbance of the general health; absence of itching, and the superficiality of the process. They are very resistant to all local medication. He describes the three following subdivisions: 1. A variety closely related to psoriasis, parapsoriasis guttata; 2, one intermediate between lichen and psoriasis, psoriasis lichenoides, and 3, parapsoriasis in patches, closely allied to seborrhea psoriasiformis. The etiology and pathology of these are obscure. They seem neither contagious nor epidemic. They may appear at any age, in any class, and are slightly more frequent in women than in men and in youths and adults. To cause them to disappear he has seen nothing to equal the cacodylate of soda, which is often inert. He has had some benefit from the glycerites locally, but the best results have been obtained through an ointment containing 10 per cent. of pyrogallic acid, to which was added 2.5 per cent. of salicylic acid. This may have to be pushed to the limit of tolerance, care being taken to avoid general intoxication, keeping the patient under close supervision.

Journal of Nervous and Mental Disease, New York.

July.

56 *A Case of Progressively Developing Hemiplegia, Later Becoming Triplegia, Resulting from Primary Degeneration of the Pyramidal Tracts. Charles K. Mills and William G. Spiller.
57 *The Results of Surgical Treatment of Brain Tumors. M. Allen Starr.
58 *A Contribution to the Pathology of Paramyoclonus Multiplex (Friedreich's Type). J. Ramsay Hunt.

56. **Progressively Developing Hemiplegia.**—From the report of cases here studied and others from the literature, Mills and Spiller conclude that there is a form of progressively developing hemiplegia usually of the ascending type, sometimes becoming triplegia, or even quadriplegia, due to progressive primary degeneration of the pyramidal tracts, which begins on one side and may extend to the other. The clinical picture may be produced by other lesions, but they hold that they have established the fact that primary progressive degeneration of one pyramidal tract occasionally occurs, this is a unilateral lateral sclerosis. They discuss the subject of primary bilateral sclerosis, quoting cases reported by Erb as indicating that primary spastic paralysis exists.

57. **Brain Tumors.**—Starr has collected and analyzed a number of cases operated on for brain tumor, cerebral and cerebellar, making a total of 365, in 11 of which the tumor was not found, and in 27 of which it was not removed. In 59 cases the tumor was removed, but the patient died, while in 168 the patient recovered. The accuracy of diagnosis is greater in recent years, and, he says, given a history of slowly progressing disease, with symptoms of headache, vomiting, vertigo, cerebral discomfort, progressive emaciation and feebleness, and gradual loss of sight due to choked disc, the only possible hypothesis is the existence of brain tumor. The localization of tumor has become more definite and the newer surgical means of access to the brain have rendered operation safer. The invention of the electrical saw is of special advantage in the surgery. It has been shown that it is of great importance in extraction of tumor to have plenty of space, and that large bony flaps can be replaced without danger. It has also been shown that extensive cutting and taking away of parts of the brain is not necessarily attended by danger if hemorrhage is not extensive. For these reasons he thinks the statistics of the next ten years will show a much greater percentage of successes than do the statistics up to date. As regards cerebellar tumors, however, the prognosis is not good. Only one-tenth of the cerebellum can be reached by the surgeon through the occipital fossa, as he has determined by measurements on the cadaver. This region is rarely the seat of cerebellar tumor. It is usually in the middle lobe of the cerebellum, directly beneath the tentorium, or lies in the sulcus between the cerebellum and the pons; both of these are inaccessible localities. He thinks, therefore, that the operation throughout is a futile one. The causes of failure in operations for brain tumor are: 1. Mistakes in the diagnosis. The local symptoms are not infallible. 2. Some tumors when accessible are not removable, such as infiltrating gliomata without boundary. The dangers of hemorrhage and meningitis are less dreaded than formerly, and proper asepsis prevents the latter complication in all cases.

58. **Paramyoclonus Multiplex (Friedreich's Type.)**—Hunt holds that there is considerable confusion in the nomenclature of this condition, which he thinks is generally spinal in its origin. His remarks are:

1. The term paramyoclonus multiplex, or myoclonus multiplex, should be reserved for that form of myospasm characterized by multiple, spontaneous, isolated contractions of individual muscles. 2. This type is peculiar and distinctive, and receives its most logical explanation in a disturbance of the spinal centers. 3. It should be carefully separated from the cerebral type of the myospasms, which are characterized by movements of a more or less co-ordinated type, as are observed in the *maladie de tic, tic convulsif* and the convulsive tremor of Pritchard and Hammond. 4. The contractions of paramyoclonus multiplex are closely related to the myokymia and fibrillary contractions. 5. Paramyoclonus multiplex may occur as an idiopathic or a deuteropathic affection, in the latter complicating various organic and functional diseases of cerebral and spinal origin.

Journal of Medical Research, Boston.

June.

59 *Hodgkin's Disease—A Pathological Analysis of Nine Cases. Channing C. Simmons.
60 *Observations on the Distribution and Culture of the Chancroid Bacillus. Lincoln Davis.
61 *Chronic Cystic Mastitis—A Study of Thirty Cases. Robert B. Greenough and Harry F. Hartwell.
62 *Bacteriology of the Fibrinous Exudate in Septic Peritonitis. Thomas J. Manahan.
63 *Transplantation of Arteries. Joshua C. Hubbard.
64 *The Effect of X-rays on Living Tissue. Seebury W. Allen.
65 On the Increase of Bacteriolytic Complements in the Rabbit's Blood. E. B. Vedder.

59. **Hodgkin's Disease.**—Simmons concludes from his analysis and study of cases that Hodgkin's disease should be regarded as a clinical entity, presenting a definite histologic picture. It has no relations to leukemia or tuberculosis, though the latter may co-exist. Eosinophiles are often, though not always, present in the glands. A considerable portion of his paper is taken up with a report of cases.

60. **Chancroid Bacillus.**—From his investigation Davis concludes that the accumulating evidence of the specific agency of the bacillus of Ducrey in the causation of chancroid justifies the following conclusions:

1. The organism is present in the purulent secretions of the great majority of cases of chancroid, and occasionally also in the pus of buboes, and may be identified by its morphology and staining reaction, together with its ability to grow on ordinary culture media. 2. Characteristic growth of the organism in a pure state may be obtained in suitable media from genital chancroids direct and also from chancroidal buboes in some cases. Growth is most luxuriant in a medium of fresh blood and bouillon, but unmixed human blood is the best medium for obtaining cultures from a source open to contamination. 3. Inoculation of a pure culture of the bacillus or of chancroidal pus on the skin of a certain species of monkey reproduces the lesion, from which in turn the original organism may be recovered in culture. 4. The cultivation of the same organism in a pure state from lesions on the hands, clinically resembling chancroid, in the absence of genital lesions, indicates that chancroid may be primary on an extragenital site. 5. Bacteriological examination of all ulcers of this type is likely to establish in the future a greater prevalence of extragenital chancroid than has hitherto been reported.

61. **Chronic Cystic Mastitis.**—From their analysis of 30 cases, Greenough and Hartwell conclude that the name "chronic cystic mastitis" (Koenig) is the best of many terms used to describe the condition of fibroid tissue increase and cystic formation in the breast at the time of the menopause. The term "mastitis" should not imply an inflammatory process due to bacteria, but rather an increase of fibrous tissue of other than local tumor origin. This increase of the fibrous tissue of the breast is normal in the stage of decline of the gland at the climacteric period. The formation of cysts and proliferation of the epithelium of the cysts and acini are striking features of the disease. Variations of the epithelium are found in this disease, from atrophic forms, through columnar cells, to papillary proliferation and cell masses of an adenomatous type. The transition of adenomatous proliferation to carcinoma of the adenocarcinoma type occurs in a few cases, but transition to other forms of cancer has not been observed. This danger is sufficient to make removal of the entire gland desirable in all but the very early and slight degrees of the affection. The operation to be advised is, as a rule, the subcutaneous resection of the entire gland without removal of the nipple. This is best done by means of the Thomas incision under the fold of the breast.

62. **Septic Peritonitis.**—Manahan has investigated the bacteriology of the fibrinous exudate in 19 cases of septic peritonitis. In 17 bacteria were found in the fibrin, pneumococci, streptococci, colon bacilli and *Bacillus acrogenes capsulatus.*

63. **Transplantation of Arteries.**—This is an account of experimental research by Hubbard, dogs being used. He was able in a number of cases to make an anastomosis which would not leak, and which transmitted circulation for the time being, but thrombosis followed in many of the cases. All of the experiments were carried out on the carotids. The same method could be employed on the aorta. In two animals he attempted to transfer branches of the aorta and controlled circulation long enough to perform the operation, though neither of the cases were successful so far as the anastomosis was concerned. He remarks that Matas has published the report of three cases of aneurism cured by suturing the sac, leaving a lumen when possible. This has, therefore, solved part of the problem he applied himself to solve, and by combining Matas' technic with his own, he thinks it might be possible to cure aneurism of the abdominal aorta. The aneurism could be sutured by the method of Matas, preserving its lumen, and any branches which arise from its sac and are too important to obliterate might be transferred to another portion of the aorta.

64. **The X-Rays.**—Allen finds:

1. The effect of prolonged *x* ray exposures on vinegar worms and protozoa is fatal. 2. On superficial capillary circulation the effect is like that of an irritant, producing vaso-dilatation. The relief of pain in cases of deep malignant growths may be explained by this phenomenon. 3. On the heart in cold-blooded animals *x*-rays act as an inhibitor. 4. On growing plants the effect is distinctly stimulating, in fact over-stimulating. On full-grown plants it is not apparently harmful. 5. Exposures

produce immediately a local increase in the number of leucocytes in the blood. This is consistent with the irritant effect upon the skin and capillaries. 6. On surface malignant growths the effect is curative in a great majority of cases, the cure not necessarily being the result of necrosis. 7. On deep malignant growths there is no microscopic change to be found in the pathological or normal cell elements. 8. Excessive exposure on healthy skin produces sloughing of the superficial tissues, leaving a low-grade, sluggish ulceration which heals slowly or not at all. Permanent dilatation of the capillaries and a scarcity of granulation tissue and blood vessels are common in such ulcerations. 9. Clinical effects are not due to *x*-rays so much as they are to some other unknown, but closely allied, phenomenon.

International Medical Magazine, New York.

June.

66 *Questions and Answers Concerning Hyperchlorhydria. Answers by C. A. Ewald, Carl von Noorden, Th. Rosenheim, Max Einhorn, J. C. Hemmeter, L. Küttner, G. W. McCaskey and Boardman Reed.
67 *The Pathology and Etiology of Gastric Hypersecretion. George Hayem.
68 On the Treatment of Primary Hyperchlorhydria by the Direct Application of Electric Currents of High Frequency to the Mucous Membrane of the Gastrointestinal Tract. George Herschell.
69 *An Experimental and Clinical Study of the Etiology of Hyperchlorhydria. John C. Hemmeter.
70 *The Treatment of Hyperchlorhydria. Fenton B. Turck.
71 The Medicinal Treatment of Hyperchlorhydria. Allen A. Jones.
72 The Relations Between Hyperchlorhydria and Neurasthenia. John A. Lichty.
73 The Effervescence Test for Gastric Acidity. A. L. Benedict.
74 A Further Development of the Benedict Effervescence Test for Gastric Acidity. Boardman Reed.
75 The Etiology of Hyperacidity. A. Robin.

66. **Hyperchlorhydria.**—This issue contains a symposium on hyperchlorhydria. A number of queries were submitted to various distinguished authorities, and their answers are given. The frequency of the condition seems to be variously estimated. Ewald, Küttner and McCaskey consider it by no means the most frequent of gastric disorders, while, on the other hand, Einhorn and Reed seem to think it outnumbers all other derangements. Von Noorden and Hemmeter are guarded in their answers in regard to the matter. The relation of hyperchlorhydria to gastric ulcer is also a point on which the authors differ, some holding that gastric ulcer causes hyperchlorhydria and others that it is a direct effect of it. As regards treatment, there are also differences of opinion, some believing in the free use of carbohydrates and fats and the withholding of meats, while others still allow the latter. The alkaline drug treatment seems to be the one in favor.

67. **Gastric Hypersecretion.**—Hayem finds the cause of hypersecretion to be the various forms of parenchymatous gastritis. It is probable that some of the vices of alimentary hygiene, which are the habitual causes of gastritis, act in a special manner on the glandular element, but it would be difficult to indicate them at the present time. An excess of food, especially nitrogenous, fermented beverages, and in women the compression of the waist by the corset, are the most frequent causes noted by him. The influence of heredity seems to be also incontestable.

69. **Hyperchlorhydria.**—Hemmeter recognizes two classes of this infection: 1. Those of a neurotic type in which there is a preponderance of nervous symptoms and fragments of the mucosa show no increase in the number of gland tubules or in the oxyntic or acid cells. 2. Those where there is an increase in the number of gland tubules or in the oxyntic cells. There is no sharp line between these two, but they require somewhat different treatment. In some cases the hyperacidity may be kept up by a proteid diet, though the latter may relieve the annoying symptoms for a time. If this relief is very brief, however, and the indican increases, then he advises a diet rich in carbohydrates and fats. All cases of hyperacidity require a certain amount of carbohydrates. In case of ulcer the diet must be as little irritating as possible.

70. **Treatment of Hyperchlorhydria.**—Turck goes at length into the mechanism of the symptoms and advises the use of demulcents as imitating Nature's method in throwing out mucus on the irritated stomach. To prevent the irritating action of water directly on the mucous membrane he has long advised the use of an intragastric bag, which will give the beneficial effects of heat in water without causing irritation. Water vapor, on the other hand, has a soothing effect, and is improved by the addition of volatile antiseptics, a few drops of oil of cloves, menthol, cinnamon, etc., added to half a gallon of water. He finds that these oils lessen the flow of hydrochloric acid rather than increase it. He describes the methods of forced feeding or gavage and the class of cases in which it is indicated, especially those in which the appetite fails, and there is repugnance to food, loss of weight, and where it is found desirable to so arrange the food as to coat the stomach with a bland substance, giving it in a mucilage of slippery elm, etc. One of the chief advantages of this is that the psychic gastric juice secretion is prevented, the odor of food and its taste being absent. In the severe forms, rest to the stomach is important in the initial treatment; putting the patient to bed and withholding all food for forty-eight hours, following this by one meal a day by gavage. The medication consists in the alkalies for neutralizing the acid and atropin to lessen secretion. In conclusion he mentions the Carlsbad mineral water and the French Lick spring water, which should be taken in small quantities, and the value of psychic treatment, gymnastic exercise and outdoor life.

Clinical Review, Chicago.

July.

76 *Gastric Ulcer; Its Diagnosis and Indications for Surgical Intervention. A. F. Stewart.
77 Lectures on Gynecology. Franklin H. Martin.
78 Pathogenesis of Locomotor Ataxia. (Continued.) G. B. Hassin.

76. **Gastric Ulcer.**—Stewart thinks that gastric ulcer is more frequent than supposed, and that if we rely on the so-called classical symptoms, we will miss an early diagnosis in about 60 per cent. of cases. It may be reasonably held that a patient suffering from trouble in the right upper quadrant of the abdomen, unrelieved by medical treatment or suitable diet, probably has gastric ulcer or cholecystitis or both. Any medical treatment in which the hemoglobin fails to approximate the normal will fail, and surgical intervention is contraindicated with a low hemoglobin percentage and a high leucocytosis. The mechanical irritation of food in ulceration is a strong factor in the subsequent development of carcinoma; hence, gastro-enterostomy should be instituted early to secure the physiologic rest necessary to repair.

Maryland Medical Journal, Baltimore.

July.

79 *Effects of the Streptococcus on the Cortical Nerve Cell in Meningitis. Leonard K. Hirshberg.
80 *Is Cesarean Section Advisable in the Treatment of Placenta Previa? Henry D. Fry.

79. **Meningitis.**—Hirshberg has investigated and reports a case of meningitis with complete postmortem details and examination of the cortical brain cells. The infection in this case was clearly a streptococcic one, the organism being found by lumbar puncture during life and in cultures from the surfaces of the brain and spinal fluid after death. Sections taken from the cortex in the rolandic area, where the green purulent exudate was very thick, stained by Nissl's modified method, showed interesting changes. All of the Nissl (or tigroid bodies had entirely disappeared from the cell bodies, and many of the cells had lost their nuclei and took the stain poorly. The cells were shrunken, distorted and irregular where the nucleus remained, and it was swollen, vesicular, and its limiting membrane at times in contact with the body wall of the cell. The nucleus as well as the nucleolus was displaced in many cases. The changes were not exactly the same as those which Barker found in his case of epidemic cerebrospinal meningitis. The nuclei were more swollen and disorganization of the stainable substance of Nissl was more complete. This may be either a question of degree of intoxication, the author says, or it may show a distinct action of the streptococcic toxin. Though there may have been some effects from reaction at a distance, direct or immediate action of the toxins of the streptococcus is the most probable.

80. **Cesarean Section.**—Fry discusses the question as to the advisability of cesarean section in placenta previa, and concludes that it is advisable in a small proportion of cases when the woman is in good condition and has not been exhausted by prolonged labor or hemorrhage, and when the placenta is implanted centrally, or nearly so, and when the cervix is un-

dilated and undilatable. He thinks it increases the chances of saving the infants better than other methods.

Albany Medical Annals.

July.

81 *President's Address. American Medico-Psychological Association. G. Alder Blumer.
82 Improvements in Extension Apparatus. George E. Gorham.
83 Postural Treatment in Cases of Hypertrophy of the Prostate with Residual Urine. H. W. Boone.
84 A Case of Acute Nephritis Complicated by Lobar Pneumonia in Infant Seventeen Months of Age. John M. Griffin.

81. **Psychiatric Progress.**—Dr. Blumer's presidential address reviews the subject of psychiatric progress, noticing the advances of the clinical school, as shown by the acceptance of Kraepelin's teachings, and its services to the profession. The reformation of the New York State Hospital services are remarked on and the development of the tendency to centralization and politics which is criticised. Blumer notices the increase of insanity, showing that it is a fact and giving data making an estimate of the number of insane in new England alone as 1 to every 307 individuals. The question whether we are doing all in our power for the prevention of insanity is also raised, with special reference to the increase of degenerates by their intermarriage and by marriages of consanguinity. In conclusion, he remarks on the more rigid laws recently enforced, partly through the efforts of the New York State Commission on Lunacy, in regard to the prevention of immigration into this country.

International Journal of Surgery, New York.

July.

85 Cholelithiasis: Diagnosis and Surgical Treatment. Wm. Mackie.
86 *Posterior Cervico-vaginal Fixation for Uncomplicated Retroversion of the Uterus. Augustin H. Goelet.
87 The Surgical Assistant (Operations on the Intestines). Walter M. Brickner.
88 Cancer of the Uterus: Its Cause and Cure. I. B. Perkins.
89 Radical Treatment of Mastoiditis, with Report of Cases. Robert E. Moss.
90 Report of My Own Case of Fractured Skull. Operation, Complete Recovery. Oscar C. Young.
91 Brief Notes on a New Formaldehyde Derivative. L. H. Schwerin.
92 The Chicago and Alton Stretcher. Howard Crutcher.

86. **Posterior Cervicovaginal Fixation.**—The operation described by Goelet aims at overcoming retroversion by holding the cervix permanently backward in the hollow of the sacrum and doing away with the pessary. Its success depends on the close attachment of the vagina to the rectum, especially in its upper portion. Its field of usefulness is restricted to cases where communication between the vagina and rectum is not too loose or the latter is not permanently dilated. The operation consists in denuding an area about one-half an inch square on the posterior surface of the cervix, and a similar surface on the posterior vaginal wall, well up in the sulcus behind the cervix, is likewise denuded; approximating the parts by deep sutures inserted from in front backward under the denuded area of the cervix and from behind forward under that of the vaginal wall. Three or four of these will usually suffice, and when they are tied the cervix is drawn backward and the fundus thrown forward. The suture material used is silkworm gut, stained with methylene blue to render it more conspicuous for convenience in removal. A tampon of gauze is placed against the cervix to take the strain off the sutures and keep the surface dry. It is removed on the second day, and may be renewed or not, according to the surgeon's judgment. The patient is kept in bed for a week, but is encouraged to rest on either side rather than on the back, and when she gets up is advised to use moderate care for two or three weeks to avoid exertion that might cause a strain on the parts. The sutures are not removed until the end of the second or third week or not until it is certain that firm union has been secured. He thinks the operation has a future, though its adaptability is somewhat limited.

American Practitioner and News, Louisville.

May 1 and 15.

93 Report of Hysterectomy for Inversion; Prostatectomy for Hypertrophy; Appendicitis Complicating Pregnancy. Irvin Abell.
94 The Pelvic Ureter: the Pelvic Floor Segment (the Visceral, Mobile, or Converging Segment). Byron Robinson.
95 Reasons for Believing that the Only Way in Nature for Yellow Fever to be Contracted by Man is from the Mosquito. John W. Ross.
96 Statistics of the Census of 1900 for the Commonwealth of Kentucky. T. B. Greenley.

Journal of the Michigan State Medical Society, Detroit.

July.

97 President's Address. Reorganization of the Medical Profession of Michigan. Albert E. Bulson.
98 A Case of Streptococcic Puerperal Infection Successfully Treated in which Serum Therapy was Used. H. W. Longyear.
99 Oration on Medicine. The Rôle of Suggestion in Therapeutics. Irwin H. Neff.
100 Some Practical Considerations on the Tumefactions of the Climacteric Breast. Theodore A. McGraw.
101 Modified Milk for the Babies of Detroit. Collins H. Johnston.
102 Some Considerations on Infant Feeding. Alexander M. Campbell.

California State Journal of Medicine, San Francisco.

July.

SYMPOSIUM ON PURE MILK SUPPLY.

103 The Necessity of a Pure Milk Supply for Infant Feeding. George H. Evans.
104 Diseases of Infancy Due to Faulty Nutrition. Infantile Rhachitis, Infantile Scorbutus and Infantile Atrophy. William N. Sullivan.
105 The Home Modification of Milk. E. W. Twitchell.
106 Prostatic Obstructions and Their Removal. (Continued.) Granville MacGowan.

Indiana Medical Journal, Indianapolis.

July.

107 The Unrecognized Debt of the Public to the Profession. Hobart A. Hare.
108 Deafness Due to Chronic Middle Ear Catarrh. John J. Kyle.
109 The Treatment of Tonsilitis. H. B. Graham.

Canada Lancet, Toronto.

July.

110 Presidential Address, Ontario Medical Association. J. C. Mitchell.
111 Uterine Myomata and Their Treatment. Thomas S. Cullen.
112 The Treatment of Pneumonia. J. H. Musser.
113 Exercise in the Treatment of Debility from Chronic Diseases. Alexander McPhedran.
114 The Operative Treatment of Goiter. Geo. A. Bingham.

The Laryngoscope, St. Louis.

June.

115 Etiology, Pathology and Symptomatology of Acute Suppurative Otitis Media. Norval H. Pierce.
116 The Treatment of Otitis Media Suppurativa Acuta. S. MacCuen Smith.
117 Etiology, Pathology and Symptomatology of Chronic Suppurative Otitis. Charles W. Richardson.
118 The Treatment of the Complications of Otitis Media Suppurativa. James F. McKernon.
119 The Technic of the Radical Operation for Chronic Suppurative Otitis Media. Edward B. Dench.

Medical Summary, Philadelphia.

July.

120 Amputation After Traumatisms. Thomas H. Manley.
121 A Valuable Digestant. W. R. D. Blackwood.
122 A Non-surgical Treatment of Rectal Diseases by Use of an electrolyte Self-retaining Medicator. S. L. Kistler.
123 The Prevention and Cure of Hernia. C. Fletcher Sonder.
124 Remarks on Chloride of Sodium. Brose S. Horne.
125 Race Suicide. C. E. Boynton.
126 Water. Ben H. Broddnax.
127 Absorption and Elimination. J. L. Wolfe.
128 Electricity for Cancer. A. G. Doane.

Canadian Practitioner and Review, Toronto.

July.

129 Presidential Address, Ontario Medical Association, Twenty-third Annual Meeting. J. C. Mitchell.
130 Uterine Myomata and Their Treatment. Thomas S. Cullen.
131 A Case of Brain Tumor with Unusual Localizing Symptoms. W. B. Thistle.
132 Immunity in the Light of Recent Studies. V. E. Henderson.

Mississippi Medical Record, Vicksburg.

July.

133 Eulogy on the Late Dr. Isaac Perry Partin. J. H. Blanks.
134 Report of Three Cases Associated with Purpura, with Some Remarks on Same. James B. McElroy.
135 Summer Diarrhea Among Children. R. H. Speck.
136 Puerperal Fever Treated with Marmorek Serum. H. L. Sutherland.

Journal of Medicine and Science, Portland, Me.

June.

137 Light and the Light Cure. D. M. Currier.
138 The Germicide Value of Lemon Juice. Bertram L. Bryant.
139 The Treatment of Whooping Cough. Charles W. McIntire.
140 The Local Treatment of Acute Rheumatism and Allied Conditions. Dr. Meyer.
141 Gangrene Following the Use of Orthoform. Wm. L. Cousins.
142 Report of Part of the Cases Treated During May at the Maine Eye and Ear Infirmary. Frank Y. Gilbert.

Medical Mirror, St. Louis.

June.

143 Ectopic Gestation. Edwin Walker.
144 Colorado Springs as a Health Resort for Lung and Heart Diseases. Harlan Trask.

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145 Meddlesome Gynecology. I. N. Love.
146 Uterine Anatomy. O. Henley Snider.
147 Country Surgery. F. E. Burgevin.
148 The Collection of Medical Journal Subscriptions. C. F. Taylor.

Memphis Medical Monthly.

July.

149 Excision of Branches of the Fifth Nerve for the Relief of Tic Douloureux. John W. Brandau.
150 Rigg's Disease. Howard T. Stewart.
151 An Eye Clinic (Trachoma, etc.). E. C. Ellett.
152 Keloids, Result of Human Bite. Frank Jones.
153 The Practice of Medicine a Specialty. G. W. Penn.
154 The Physician as a Citizen. Sidney Thompson.
155 Incramural Fibroid; Tuberculosis of the Abdominal Viscera; Pathologic Rectal Valves. John L. Jelks.
156 The Ideal Training School for Nurses. Vinnie A. Middleton.

Medical Times, New York.

July.

157 The Successful Treatment of Gastric Ulcer, with the Latest Views on Pathology. G. R. Johnson.
158 The Physiology of Pain. Hermann Gasser.
159 Appendicitis Complicating Pregnancy, with Report of Cases. J. Hubley Schall.
160 The Antiseptic and Dietetic Treatment of Typhoid. A. L. Benedict.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

July 4.

1 *Cancer of the Prostate and the Selection of Cases for Suprapubic Prostatectomy. Reginald Harrison.
2 Total Extirpation of the Prostate for Radical Cure of Enlargement of that Organ. P. J. Freyer.
3 *Some Points in the Pathology and Treatment of Prostatic Obstruction, with an Account of Thirty-three Operations for Its Removal. W. Bruce Clarke.
4 The Life-span of Filaria Medinensis. Patrick Manson.
5 History of Medicine. Joseph F. Payne.
6 Muscular Movements and Their Representation in the Central Nervous System. Charles E. Beevor.
7 Protruding Auricles Treated by Operation. T. G. Ouston.
8 Note on the Operation for Cleft Palate. Charles P. Childe.

1. Cancer of the Prostate.—Harrison holds that carcinoma of the prostate is far more common than has been held. The disorder is not infrequently met in younger persons than those suffering from the ordinary forms of prostatic enlargement or adenoma. It may occur at or about the age of 50. It is usually associated with considerable lumbar and sciatic pains, and involves the glands in the groin. Rectal examination shows a hard stony gland with fixedness. Slight hemorrhages are common, but there may be only a late obstruction to catheterism. Loss of weight is usually noted. The conditions are very different from those of ordinary adenomatous enlargement. He insists on the use of the electric cystoscope to confirm the diagnosis on account of its importance at the present time, when operations are frequent. Prostatectomy is not so urgently indicated in the early stages of cancer and the prospect of recurrences should be fully considered. If urinary obstruction, however, exists, a suprapubic opening may give immense relief. The paper also includes remarks on partial operation for prostatectomy, the removal of a limited portion of the gland, and in conclusion he suggests the possibility of stricture following operations and due to laceration of the prostatic urethra.

3. Prostatic Obstruction.—According to Clarke there are at least three conditions of prostatic obstruction quite independent of one another, and depending on several pathologic conditions: 1. Adenomatous growths; 2, the sclerotic type; 3, a condition of enlarged veins in connection with the organ, and there is also a fourth condition of inflammation and congestion of the mucous membrane surrounding the urethral orifice and all of these possibilities should be considered in our treatment.

The Lancet, London.

July 4.

9 *Bright's Disease from a Clinical Standpoint. J. Rose Bradford.
10 The History of Medicine. Joseph Frank Payne.
11 Dysentery and Intestinal Hemorrhage. Lauder Brunton.
12 *On the Fatal Effects of Chloroform on Children Suffering from a Peculiar Condition of Fatty Liver. Leonard G. Guthrie.
13 The Education of Physically Defective Children Under the London School Board. F. May Dickinson Berry.
14 Perforations of the Gall Bladder: Treatment by Invagination. H. A. Lediard.
15 *The Influence of Diet in Pregnancy on the Weight of the Offspring. D. Noel Paton.
16 The Biological Action of Moulds on Arsenical Compounds. H. de R. Morgan.
17 *The Ortol Reaction as a Means of Distinguishing Raw Milk from Boiled. Carstairs C. Douglas.

9. Bright's Disease.—Bradford points out the distinction of Bright's disease from nephritis. The latter may be simply the result of toxic action from infectious disease, from renal infarction, or from drug intoxication. Bright's disease, on the other hand, has for its characteristic onset not merely urinary changes but also sudden occurrence of dropsy, peculiar in its character and distribution. In acute Bright's disease there is always a diminution of urine and a varying degree of albuminuria. In some cases the urine is also loaded with blood, but cases of very acute Bright's disease with marked dropsy may occur with little or no blood in the urine or little or no albuminuria. Chronic Bright's disease is difficult to classify, but he recognizes two fundamental varieties: 1. A more or less close correspondence with the condition described as large, white kidney, though the kidneys are frequently not greatly enlarged. This may follow an attack of acute Bright's disease or may be the final result of a number of recurrent attacks or it may be chronic or persistent from the beginning. The second form has caused much difference of opinion. Some include it under the general category of granular kidney, and there is undoubtedly some resemblance in the symptoms. There is a sharp distinction, however, in the presence of a large amount of albuminuria, anemia, emaciation, etc., so marked in Bright's disease, which is often lacking in true granular kidney. In both forms we have a large quantity of dilute, highly alkaline urine; in both the dropsy is likely to be absent and it is by no means uncommon for chronic Bright's disease to be discovered when not expected, especially the second type. The progressive loss of strength and flesh is most characteristic. Another not uncommon feature is the presence of pigmentation which has often led to the diagnosis of Addison's disease. There is a marked neuroretinitis in most cases and the suggestion of an unrecorded form of chlorosis is sometimes possible. There are some syphilitic conditions which are undistinguishable in many respects from Bright's disease, but the results of treatment and the history will clear matters up. He sums up, therefore, the four different types of Bright's disease or related forms, as: 1. Nephritis; 2, Bright's disease; 3, two different forms of chronic Bright's disease, and 4, granular kidney. The anatomic conditions and the etiology have considerable in common, but the author's conclusion is that we may regard the various forms of nephritis as produced by a toxic agent on the kidney and in Bright's disease with dropsy the toxic agent acts not only on the kidney but on the vessels generally. The diagnosis is not usually difficult, especially in the acute form, but as already indicated, it may be troublesome in the chronic type where the renal symptoms are not prominent and the separation of Bright's disease from amyloid disease is a matter of importance on account of the difference in treatment. The character of the urine and sometimes the presence of waxy casts and the recognition of a cause capable of producing amyloid degeneration will generally aid in the differentiation. The differential diagnosis from the more passive congestion, especially in cardiac cases, is an important one from a prognostic point of view. Usually the character of the casts in the two cases, the difference in the specific gravity in the urine and the fact that renal congestion is most likely to be present where there are other signs of distension of the venous system, will aid the diagnosis. In some forms of heart disease with albuminuria it is very difficult to say which is primary.

12. Chloroform.—Guthrie recalls a former article in which he reported a number of cases of death occurring within ten hours to six days after operation was performed under chloroform in children and one case in which recovery took place after very serious symptoms. In these fatal cases he found a peculiar fatty degeneration of the liver, and he remarks that the chloroform may have been responsible as against the possibility of carbolic acid poisoning which was suggested as the cause of death in some of his cases in which antiseptics were used in the preparation for operation. There is no doubt in these cases of the carbolic acid poisoning, but he does not consider

that the principal factor. Experiments on animals show that generally fatty degeneration is the result of chloroform narcosis, but it is more difficult to suppose that this might be followed by death from anesthesia of only an hour or so. From the facts presented, he thinks it is probable that the liver being in an advanced state of fattiness previous to operation, was probably on the verge of functional inadequacy with regard to elimination of toxins entering the portal circulation, though still able to hold its own in ordinary circumstances. Chloroform aggravated the condition and lowered the hepatic function so that ptomains or toxins escaped into the general circulation, or by their specific action on the kidneys prevented the elimination of such poison. These are the conclusions of his former paper. He remarks on the possibility of foreseeing whether chloroform will be dangerous in a given case, and refers to Poehl's statement that the quantity of alkaline substance may be a guide. Whether this has been proven to be a face he does not know, but there are practical difficulties in the thorough examination of the urine to the extent required. He also suggests a possibility of danger in the practice of utilizing phloridzin before operations to test the adequacy of the kidneys. It has, according to Romfeld, the effect of causing a storage of fat in the liver. The diagnosis of these cases is not difficult when we consider the cerebral symptoms and delirium which is noted. Jaundice was only present in one case. The treatment which he would recommend would be the use of stimulants, active purgation, venesection and saline transfusion. There is no use to wait until the chold is comatose before resorting to these measures.

15. **Diet in Pregnancy.**—Paton has investigated the effect of diet on the weight of the newborn, and finds that observations, though not numerous, agree so closely that they warrant the conclusion that the size of the offspring depends very directly on the diet and nutrition of the mother during pregnancy. While this explains the easy labors among the healthy lower classes and confirms Prochownick's conclusion that by dieting the mother the children of rickety women may be so reduced in size as to be viable, it also helps to explain the very high infant mortality among the very poor. The physiologic point of chief interest seems to be the demonstration of the limitations in the extent to which the tissues of the mother can be utilized for the construction of the embryo. The nutrition of the maternal tissues seems to take precedence over the nutrition of the fetus. If this were not the case, we would find that badly nourished mothers produce a greater proportion of weight than well-nourished mothers, which is the reverse of what occurs. The mother thus appears to pass on the surplus nourishment to the fetus and the better the nourishment of the maternal tissues the greater the growth of the young *in utero*.

17. **The Ortol Reaction.**—Douglas calls attention to the color reaction recently described by Saul in the *British Medical Journal*, which he has employed in a number of cases. It is simply the adding of a few drops of a 1 per cent. solution of an organic compound, orthomethyl-aminophenyl-sulphate to raw milk or milk which has not been raised above a certain temperature and following it by a drop of weak peroxid and hydrogen (5 volume strength), which produces in a very short time a deep reddish-pink color. When this is carried out on milk that has been heated above the pasteurization point (above 75. C) or a little higher, this reaction fails, or only a slight brownish tinge is given. As the compound is expensive, Saul advises the use of ortol instead, a substance used in photography, and consisting of the above body mixed with quinol. Douglas has always employed it, and for the sake of convenience calls the test the ortol reaction.

Indian Medical Gazette, Calcutta.

June.

18 •Vesical Calculus. W. K. Hatch.
19 Some Septic Infections and Nervous Lesions Following Chancroids. E. F. Gordon Tucker.
20 Note on the Climate of Erythrea. G. M. Giles.
21 Note on the Mycoid Body Found in the Blood Corpuscles in Remittent Fevers. (Continued.) W. Leonard Braddon.

18. **Vesical Calculus.**—Hatch has had considerable experience with stone in the bladder in Bombay, and gives his views. As regards lateral lithotomy he thinks there are very few occasions in which it can be used in adults with advantage. The possibilities of causing urine incontinence and also of opening the peritoneum are decidedly against it. As regards lithotripsy in the ordinary uncomplicated cases in adults it is almost an ideal operation, and he thinks the perineal method has not been sufficiently valued and utilized. The operation requires skill on the part of the operator, and especially in children where the tissues tear easily and the parts are small. The anesthetizing is an important matter in these cases, and it is impossible to seize and crush the fragments unless the bladder walls are passive, and sometimes the use of instruments sets up a movement which may hamper, if not destroy, the possibility of further progress. Without a skillful anesthetist he would hesitate to operate by crushing. Suprapubic lithotomy he thinks undesirable in adults, excepting in a case of very large stone. It is slow in healing, and the accumulation of phosphates, etc., causes an irritation, and the patient sometimes dies from exhaustion. In any case he thinks it is well to drain through the perineal urethra. It does not increase the risk, and only takes a few minutes. In children, however, the operation is a good one. The bladder is naturally high, is easily raised above the pubis, readily opened without danger to the peritoneum, its contents can be easily removed, and subsequent suturing carried out with facility. For men engaged in general practice, as opposed to hospital practice, the operation is much safer than litholapaxy in children. Cystitis is also less likely to occur in children. Cutting is, therefore, more cleanly and the incision heals better. With small stones and roomy passages, it is often possible to remove the calculus by a good-sized evacuating canula. He has several times succeeded by this method. He does not find many cases of encysted stone, indeed has had but one case where it was unreachable by the lithotrite. In this case the suprapubic operation was required. The mortality of the suprapubic operation in his cases was about 32 per cent.; in his perineal lithotomies about 10 per cent.; of 352 litholapaxies only 16 died, or 4.5 per cent. His tabulation does not include a series of two hundred or more cases where sufficient data were lacking for publication, but the results of these two hundred averaged rather more favorably than those reported. The patients were of a better class, mostly from outside the city, and in better physical condition.

Intercolonial Medical Journal of Australasia, Melbourne.

May 20.

22 Observations on Pathology and Surgery of Retrodisplacements of the Uterus. (Continued.) G. Rothwell Adam.

Annales d. Mal. d. Org. Genito-Urinaires, Paris.

Last indexed XL, page 968.

23 (XXI, 1.) •Recherches expérimentelles sur la tuberculose génito-urinaire, surtout sur la tuberculose des reins (of the kidneys). P. N. Hansen (Copenhagen).
24 De la valeur de l'electrolyse linéaire dans le traitement des rétrécissements de l'urèthre (urethral strictures). Moran.
25 (No. 2.) Revue critique sur les lois de la formation des sexes. F. P. Guiard.
26 •Des perfectionnements récents apportés au diviseur vésical gradué. F. Cathelin.
27 (No. 3.) Entérite et bactériurie. J. Janet.
28 3 cas de traumatisme du rein (of kidney). P. Guibal.
29 (No. 4.) Du rétrécissement (stricture) blénnorragique de la portion membraneuse de l'urèthre. P. Bazy and Decloux.
30 •Urine Segregation in Children. G. Luys.—La séparation de l'urine des 2 reins chez l'enfant.
31 (No. 5.) •De l'influence de la résection du vas déférent sur le tonus du sphincter vésical. A. Wassilieff (Warsaw).
32 •Double Bladder. F. Cathelin and Ch. Sempe—La vessie double.
33 Illumination for Urethroscopy. Bensa.—De l'éclairage dans l'uréthroscopie.
34 (No. 6.) •Du traitement des rétrécissements de l'urèthre par l'electrolyse linéaire. F. André (Nancy). See above in No. 1.
35 Traitement des uréthrites chroniques. R. Motz.
36 •Déformations de l'urèthre dans l'hypertrophie de la prostate. Nouvel sonde pour le cathétérisme des prostatiques. J. M. Bartrina (Barcelona).
37 •Ablation of Suppurating Inguinal Glands. A. Poussou (Bordeaux).—Sur l'extirpation des adénites vénériennes suppurées de l'aine.
38 (Nos. 7-8.) •Modifications du technique des injections epidurales. F. Cathelin.
39 •Contribution à l'anatomie pathologique de la tuberculose de l'appareil urinaire. N. Hallé and R. Motz. (Commenced in December, 1902.)
40 (No. 9.) •Du cancer primitif et limité de la prostate et de son traitement par la prostatectomie périneale. Oraison (Bordeaux).

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41 (No. 10.) *Massage in Treatment of Strictures of Urethra. J. M. Bartrina (Barcelona).—Traitement des rétrecissements de l'urèthre par le massage.
42 (No. 11.) Role de la prostate dans les tumeurs epithéliales infiltrées de la vessie (of bladder). E. Monfort.

23. **Experimental Tuberculosis of Genito-Urinary Organs.**—Hansen found it impossible to induce hematogenic tuberculosis of the bladder in his experiments on rabbits, even after contusion of the organ and simultaneous subcutaneous injection of tubercle bacilli. But direct inoculation proved successful, especially when accompanied by transient retention of urine. The resulting lesion was generally insignificant and displayed no tendency to spread by way of the ureters to the kidney, but it almost invariably involved the prostatic vesicle and the prostate itself. Inoculations in the lower portion of the vas deferens induced tuberculous lesions, not only in the testicle and epididymis, but also in the vas and prostatic vesicle. In one instance the prostate was likewise invaded, but never the bladder, and still less the ureters or kidneys. In one single case injection into the ureter, plus ligature, was successful in inducing a tuberculous lesion in the kidney.

26 and 30. **Intravesical Segregation of Urine.**—The instruments devised by Luys and Cathelin have been described in THE JOURNAL from time to time during the past year. Luys has found a small size useful for children. See THE JOURNAL, xl, p. 62, ¶39.

31. **Influence of Resection of Vas Deferens on Vesical Sphincter.**—Wassilieff ascribes to reflex action on the tonus of the bladder sphincter the favorable results observed after resection of the vas deferens in case of hypertrophy of the prostate. He has been led to this conclusion by the constant results in a series of experiments on dogs. This explains the promptness with which the result is attained, sometimes in a few hours. The suppression of the spasmodic contraction of the sphincter affords better conditions for drainage of the bladder thereafter, and this ensures continuous and prolonged benefit. The most brilliant successes in these sexual operations have been obtained in cases of acute retention. Pankreatieff reported in 1900 that only 3 failures had been observed in 39 cases belonging to this category. In the experimental research described the degree of intravesical pressure necessary to emit the urine was determined before and after the intervention, and in every instance resection of the vas reduced the tonicity of the sphincter.

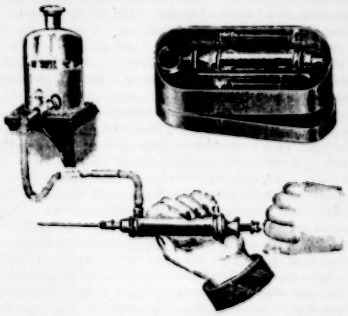
32. **Double Bladder.**—Cathelin gives the details of 17 doubtful but probable cases of double bladder that he found in the literature, and of 15 certain cases, including one personally observed. In the latter a man of 82 died in urinary cachexia from complete retention. Two bladders were found, both about the same size and located one behind the other. The right ureter opened into the anterior and the left into the posterior organ.

34. **Linear Electrolysis for Urethral Stricture.**—André concludes from study of 23 cases that this method of treating a stricture may be indicated when it is not multiple or not more than three; when the stricture is not too hard, and especially when it is merely a narrow belt and the urethra is not constricted for any distance. Under these conditions electrolysis is to be preferred to urethrotomy on account of the simplicity of the intervention and the lack of necessity for after-care. But it is very important that the dilation realized should be maintained by occasionally passing a bougie, as after any method of treating stricture. Neglect of this precaution may undo all the benefits derived, as he has learned from his experience.

36. **Flat Catheter for Hypertrophied Prostate.**—Bartrina has found that the hypertrophied prostate frequently nearly closes up the orifice into the bladder, but leaves a long, narrow slit. In these conditions he has found that a catheter made flat instead of round could be readily passed through the slit, when it was impossible to introduce ordinary round catheters even of a much smaller size.

37. **Ablation of Suppurating Buboes.**—Pousson treats suppurating venereal inguinal adenites the same as a malignant neoplasm. He removes the entire infected pleiad of ganglia with the gland involved. His patients were dismissed cured in fifteen to twenty days, and he is convinced that better results follow this method of treatment.

38. **Improved Technic of Epidural Injections.**—A. Strauss of Barmen has introduced Cathelin's epidural injections into Germany, modifying the technic somewhat. He is preparing an address on the subject for the approaching Naturforscher Congress in Germany, and in the meantime has published a work on the subject extolling the method as important progress. Cathelin and Strauss both claim that this method of spinal cocainization is free from the dangers of the subarachnoid route as also from its inconveniences, while it is at least fully as effective. (Cathelin's technic was described in THE JOURNAL, xxxviii, 1902, p. 1279, ¶60.) Strauss announces that the lowest limit of efficacy of the cocain solution, .02 per cent., can be reduced by one-half if it is dissolved in physiologic salt solution. His formula is: .2 sodium chlorid; .01 cocain hydrochlorate in 100 gm. distilled water, with the addition of 2 drops of 5 per cent. carbonated water. He has invented a syringe which fills itself automatically and is peculiarly adapted for this work, and also for infiltration anesthesia as it has a double valve arrangement allowing both aspiration and expulsion.



He uses a platinum needle about 6 cm. long and 1 mm. in diameter, kept very sharp. Cathelin gives illustrations showing the various points in the technic.

39. **Tuberculosis of the Urinary Apparatus.**—In the second part of this important contribution and review of the vast material at the Necker Hospital, tuberculosis of the posterior urethra, prostate and seminal vesicles is considered, with 44 cuts. Rectal exploration is the only effectual mode of investigating the condition of the prostate. Increase in size and tension reveal the perituberculous congestion. The finger sinks in, the tumefied organ feeling like a uniform, pasty mass. In the atrophic, sclerous form, frequently one phase of healing, the organ will be found diminished in size and indurated. Palpation of the vesicles reveals the same pasty consistency. Expression of the prostatic juice by massage through the rectum is liable to reveal the Koch bacillus. A subvesical cavity is suggested when the forcible evacuation of urine is followed by a dribbling from the pocket below the bladder. Hemorrhage may also occur from the pocket, as hemoptysis from a cavity in the lung. The pocket may be palpated through the rectum and its contents evacuated. The feeling through the rectum of a catheter in the cavity is also characteristic. The prognosis of tuberculosis in the posterior urethra is grave, but tubercles in the prostate and seminal vesicles are liable to heal. A perituberculous reaction on the part of the connective tissue may arrest and cure the tuberculous focus, and the possibility of this contingency should always be borne in mind. Secondary infection is liable to prove disastrous and catheterization should therefore be restricted to the minimum. The possibility that the tuberculous focus is single is slight. Saxtorph found only 9 cases of an isolated focus in the prostate and 2 in the vesicles in 205 cases of chronic urogenital tuberculosis. On the

other hand, the pathologic anatomists find a marked tendency to encystment of the lesions. At the Necker Hospital many cases of actual spontaneous cures by this process of sclerosis have been encountered, and the clinic confirms the possibility of spontaneous cure of tuberculosis of the testicles, prostate and vesicles. The surgeon should, therefore, refrain from precipitate intervention. Vigorous medical, hygienic and medicinal measures should be instituted, refraining from all instrumental or topical treatment. If the affection continues a progressive course, threatening softening and suppuration, the surgeon should proceed to forestall the pathologic destruction of the organs by suppressing the focus. The prostate and vesicles should be removed if the lesions in them are extensive and softening has already occurred, liable by their further progress to endanger life. The results will be good, barring complications elsewhere. Even in an advanced stage, regardless of the general condition, surgical intervention may sometimes be useful. By evacuating a large subvesical cavity through the perineum, draining and diverting the course of the urine to obviate stagnation and its general effects, the surgeon will frequently relieve and may sometimes cure.

40. **Cancer of the Prostate.**—Oraison has observed 2 cases of primary cancer of the prostate. Twenty-eight cases have been encountered at the Necker Hospital in the course of three years in a total of 306 prostatic subjects, and 16 at Saint-André in twelve years, in a total of 170. Albarran and Hallé found 14 epitheliomata of the prostate in 100 cadavers which had been labeled as merely hypertrophy of the organ. They were the first to describe the circumscribed variety, adenoid epithelioma. Neoplasms in the prostate are usually observed under 10 or over 50 years of age. In young subjects sarcomata of the prostate are more frequent and epitheliomata in the elderly. The above writers have published 10 cases in which simple hypertrophy of the prostate became transformed into a malignant neoplasm. Socin, Klebs and Thompson have met with 3 more. Different varieties of cancer have been found in the prostate, carcinoma 48, and sarcoma 7 in 55. In 10 cases on record operated on more than four years ago, the cure has persisted to date. In 6 cases there was an operative cure, and in 4 the patients died during or soon after surgical intervention. In 3 others recurrence followed in nine to fourteen months. The conclusions imposed by experience and review of the literature are that every suspicious case of hypertrophy of the prostate causing symptoms sufficiently annoying to justify intervention, should be treated by prostatectomy, according to Albarran, and very frequently the lesion will prove to have a tendency to malignancy. Even when a cure is not possible, an operation may afford great relief. Subtotal prostatectomy will usually answer unless the prostatic urethra be likewise involved. When the cancer has passed beyond the limits of the gland abstention is the wisest course.

41. **Massage in Treatment of Urethral Strictures.**—Bartrina first fills the bladder with a 1 per 2,000 solution of mercury oxycyanid and then dilates the strictures with two or three catheters, as usual, at each sitting, massaging the urethra for five minutes over each catheter in turn. These procedures summon the leucocytes to the spot, but in order to reach it they have to pass the zone of the stricture sclerosis. In order to cross this zone the leucocytes have to make a way for themselves through the interstices of the fibrous tissue. By this microscopic burrowing through the tissue its trabeculæ become less compact, the meshes are stretched and the tissue becomes more flexible. The leucocytes also bring away with them the infiltrates in the glands and sweep them clean as it were. Massage is therefore indicated to promote absorption, and as a preventive measure in case of infiltration to prevent its becoming organized into sclerous tissue. It is especially effective in the treatment of chronic urethritis, which so often accompanies a stricture, but its chief value lies in its modification of the stricture itself.

Revue mens. d. Mal. de l'Enfance, Paris.

Last indexed XL, page 1762.

43 (XXI, June.) *Les paralysies précoces du voile du palais dans la diphthérie et leur pathogénie. Deguy.

44 *Dilatation aortique rheumatismale. Zuber.
45 *Propriétés du sérum antidiphthérique. L. Martin.

43. **Early Paralysis of Soft Palate in Diphtheria.**—Deguy suggests that there is a secondary infectious factor in these paralyses as well as a toxic. Five cases which he reports confirm this assumption.

44. **Dilation of Aorta from Rheumatism.**—Zuber has had occasion to observe two cases of this condition, and has traced one for three years. The lad is now 16 and has had seven attacks of acute articular rheumatism. The aortitis has continued a progressive course and the aorta is now enormously dilated.

45. **Antidiphtheria Serum Tablets.**—In this communication from the Paris Pasteur Institute Martin states that he has established that the curative serums contain a sensibilizing substance when they are able to induce agglutination, which ordinary serums do not have. He also announces that antidiphtheria serum applied locally to the throat in case of diphtheria rapidly reduced the pain in all his experiences. Local applications are too transient for much benefit to be derived in this way and still better results are attained by incorporating dried serum with some vehicle which slowly dissolves in the mouth. Tests of serum tablets thus made and given to adults and older children, showed that the pain rapidly subsided under their influence, the membranes turned yellow, swelled, and were soon cast off. Cultures taken from the throats after using these tablets showed that a much smaller number of colonies developed after twenty-four hours than in control cultures, and very few could be discovered after forty-eight hours. His experience demonstrates that the persistence of the diphtheria bacilli in the throat can be diminished by using these tablets, and that they will also serve as a prophylactic measure. He never failed to make the usual subcutaneous injections of the serum in cases of established diphtheria, and regards the tablets in such conditions as merely an adjuvant until further orders.

Beitraege z. Klin. Chirurgie (von Bruns'), Tuebingen.

Last indexed page 213.

46 (XXXVI, 1.) Sarkome und Endotheliome nach ihren pathanat. und klinischen Verhalten. L. Burkhardt.
47 Ueber die Dupuytren'sche Finger-Kontraktur. G. Doberauer.
48 *Ueber Adenome des Dünn- und Dickdarmes (of intestines). F. Smoler (Prague).
49 *Die Behandlung der Spina ventosa mittelst freier Autoplastik. C. Timann (Rostock).
50 *Ueber das Ulcus cruris des Fusses. O. v. Wartburg (Zurich).
51 *Zur Chirurgie der Milz- und Leberverletzungen (spleen and liver injuries). H. Roeser (Carlsruhe).
52 Intracranial Affections in Case of Empyema of the Sphenoidal Sinus. Kander.
53 (No. 2.) *Zur Diagnostik und Therapie des inneren Darmverschlusses (internal intestinal obstruction). E. Hepner.
54 *Exp. Beitrag zur Kenntnis der infektiösen Thrombose. L. Malke (Leipzig).
55 *Articular Affections in Syringomyelia. Michel (Tübingen).—Zur Kenntnis der Gelenkerkrankungen bei Syringomyelie.
56 Ueber Volvulus der Flexura sigmoidea. F. Kuhn (Königsberg).
57 *Zur Lokalisation der inneren Darm-Okklusionen und zur Frage der Autointoxikation. C. Borszeky and A. v. Genersich (Budapest).
58 *Ein neues Massage-Verfahren. F. Hofmeister (Tübingen).
59 *Prospects of Operative Treatment of Mammary Cancer When Supraclavicular Glands are Enlarged. H. Küttner (Tübingen).—Welche Aussichten bietet die Operation, etc.?
60 (No. 3.) *Treatment of Varices According to Madelung's Shelling-out Method. F. Fraenkel (Sorau-berg).—Ueber die Behandlung der Varicen der unteren Extremität durch Ausschälung nach Madelung.
61 *Krause Skin Flaps. H. Widmann.—Ueber Transplantation ungestielter Hautlappen nach Krause.
62 Transferring the Nerve Groove in Soft Parts in Treatment of Radial Paralysis After Fracture of Arm. G. Reisinger. —Kasuistischer Beitrag zur Nervenlösung bei Radialislähmung nach Oberarmfractur. 2 Cases. Successful Results.
63 *Zur operativen Behandlung frischer Subkutaner Patellar-Frakturen. K. Thienger.
64 *Ueber die Aberration von Prostata-Drüsen und ihre Beziehung zu den Fibrombenomen der Blase. Ch. Thorel.
65 Fall von Eierstockschwangerschaft (ovarian pregnancy). R. Bandel.
66 Congenital Tumors of Sacro-Coccygeal Region. J. Wieting (Hamburg).—Beitrag zur den angeb. Geschwülsten der Kreuz-Steissbeingegend.
67 Ueber die retrovisceralen Geschwülste und Strumen unter bes. Berücksichtigung ihrer Topographie und der Technik der Operation. C. Brunner.
68 Die transpleurale Laparotomie und die offenen Milzwunden (open spleen injuries). F. Schaefer.

48. **Adenomata of Intestines.**—Smoler's experience includes 8 cases of polypi in the rectum observed at the Prague clinic,

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and he reviews 12 in the literature. He also describes a typical case of adenoma in the small intestine, with 5 collected, and 15 cases of adenomata in the large intestine. On this basis he describes the clinical picture, prognosis and treatment.

49. **Autoplastic Treatment of Spina Ventosa.**—Tilmann advocates Müller's method of substituting the diaphysis of the metacarpus by a fragment of bone taken from the ulna with its periosteum. One of the advantages of this method is that both wounds are near enough together to be dressed with the same bandage. He has thus treated 13 cases, and remarks that this method can be considered comparatively certain and the resulting function good, although induration or a fistula may persist in some cases for a time. He emphasizes the necessity of taking a larger piece of bone for the substitute flap the younger the subject.

50. **Mal Perforans.**—In 6 of the 14 cases reported from the Zurich clinic no causal factor could be determined, but in the others there was evident degeneration of the nerve or vascular sclerosis.

51. **Surgery of Injuries of Spleen and Liver.**—Roeser is able to report 2 severe cases of rupture of the spleen and hemorrhage into the abdominal cavity which were cured by an abdominal splenectomy. In the third case, a stab wound was merely tamponed, and the patient succumbed to metastatic pneumonia. He also describes 5 cases of injury of the liver treated by surgical intervention.

53. **Treatment of Internal Intestinal Obstruction.**—Hepner reviews the published statistics of certain German clinics in addition to Riegner's at Breslau, and concludes that the best results are obtained when attention is paid chiefly to improving the conditions of the circulation and relieving the overfilled intestine. In Riegner's experience with 37 cases, operative intervention was required in 31, and 15 of these recovered. The palpation findings were positive in 17 of the 31, in 12 negative and in 2 misleading. He thinks the indication to relieve the distended intestine is as urgent as to make a correct diagnosis by palpation beforehand. Hepner describes the cases in detail.

54. **Experimental Infectious Thrombosis.**—Talke found that thrombosis occurred in 33 experiments out of 44, in which he inoculated rabbits, cats or dogs with staphylococci in the vicinity of a vein or artery. In 16 cases the thrombi completely obliterated the vessel, and in 12 only partially closed the lumen. Thrombosis was noted as early as nine hours after the inoculation. He describes the histologic findings; they suggest that the thrombosis occurred indirectly, by the intermediation of inflammatory alterations.

55. **Changes in Joints in Syringomyelia.**—In 17 cases of syringomyelia observed at von Bruns' clinic, the joints were affected, the shoulder in 12, elbow in 4, wrist, hip, knee or ankle in one each. This represents 30 per cent. of the total number of cases of syringomyelia observed during the last forty years at the clinic. Men were affected more frequently than women, and trauma seemed to be an important factor. The joint affection is slow and chronic, and in only 2 cases was operative intervention required. Sokoloff noted joint troubles in 10 per cent., and Schlesinger in 25 per cent., in their experience with syringomyelia.

57. **Autointoxication in Case of Intestinal Occlusion.**—The experimental researches reported apparently demonstrate that the passage of the bacterium coli into the blood and tissues, in case of intestinal occlusion, is the cause of the general symptoms observed. Indicanuria was noted in 85.7 per cent. of the cases after occlusion of the small intestine; in 19 per cent. after occlusion of the large intestine, and in 20 per cent. after occlusion of the cecum. The bacterium coli was found very early in the blood and in the abdominal cavity in a large proportion of the experiments.

58. **Mercury Massage for Fingers and Hands.**—Hofmeister describes a gentle means of massaging the hand in use at von Bruns' clinic. The patient is seated and dips the finger or hand gradually into an iron cylinder about 12 to 15 cm. in diameter and 50 cm. high, half full of quicksilver. A layer of 30 per cent. alcohol on top, a few centimeters thick, prevents evaporation or loss of the metal by its sticking to the hand or arm. Any wound on the fingers is protected by an adhesive plaster. The single sittings are from a quarter to an hour long, and the absolute painlessness, the regularity and the gradual way in which the hand can be immersed in the quicksilver at rhythmic intervals, commend this new massage procedure for general adoption. The only drawback is the expense of the quicksilver.

59. **Prospects of Operative Treatment of Mammary Cancer.**—Küttner reports from the same clinic that not a single one has survived to date out of the 41 cases of mammary cancer, operated on between 1880 and 1892, in which the supraclavicular glands were enlarged. All the apparently morbid elements were removed at the intervention. He reviews the details of 54 cases in which the supraclavicular glands were thus removed with the cancer.

60. **Treatment of Varices by the Madelung Method.**—Fraenkel states that extremely favorable remote results were obtained in 16 out of 21 cases of severe varices on the leg treated by shelling out the varicose veins. In 3 no appreciable benefit was derived, and 2 were merely improved. This operation has been performed at the Nuremberg clinic in 9 other cases also, of more recent date, a total of 35 operations on 30 patients, 7 of whom were women. Healing proceeded smoothly in all but 3 cases, in which there was moderate necrosis of the skin. This method of operating is reserved for the severer cases, in which operative intervention is indicated by the recurring neuralgic pains, cramps in the calves, swelling, hemorrhage or danger of it, obstinate eczema or ulcers. Such cases may call for the most radical ablation of the morbid venous network with excision of the saphena magna up into the thigh nearly to the fossa ovalis. Only in case such an extensive operation is absolutely contraindicated by the danger of the narcosis or other reason, is the Trendelenburg method preferable, that is, resection of a portion of the vein about 10 cm. long, just below its mouth. The technic of both methods of surgical intervention is described in detail. For the first, after a day or so of preparation the leg is wrapped in a sterile cloth and allowed to depend over the side of the bed for a few minutes, after which elastic constriction is applied at the root of the member, and under general narcosis the incision, starting at the fossa ovalis, exposes the saphena, which is resected between two ligatures. The peripheral threads are not cut but serve to locate the vein. The shelling out is more difficult below the knee, and several incisions may be necessary to avoid too much undermining of the skin. He uses fine silk to ligate the lumina and closes the long incision without drainage. The leg is placed in side splints and raised as high as 60 cm. for a week and then gradually lowered.

61. **Krause Flaps.**—The chief point in transplanting unpedunculated flaps is to keep them in place with catgut sutures. Widman describes 29 cases. In 11 the flap was applied on a finger after amputation, in 4 after removal of a tumor, in 5 after excision on account of lupus, disfiguring scars or traumatic defects.

63. **Treatment of Recent Fracture of the Patella.**—This article, with the 7 others preceding or following, issues from the Nuremberg clinic. In operative intervention in 5 cases of fractured patella the parts healed smoothly and the functional results are most excellent. Contact with the fingers in operating is scrupulously avoided, the joint cleaned with saline solution and fixation accomplished by an electric drill and silver wire. The wound is closed without drainage. Thienger lays great stress on the after-treatment, massage, suspension, etc. The patients are allowed to get up the fourth week, still wearing an immobilizing apparatus.

64. **Aberrant Tissue from Prostate.**—Thorel describes some very small tumors found by chance between the mouths of the ureters in the bladder at 4 autopsies of men between 20 and 59. Histologic investigation disclosed a structure similar to that of the prostate, and he thinks that certain cases of adenomatous neoformations in the bladder may be due to aberrant elements from the prostate.

Centralblatt f. Bakt. u. Inf. Krankh., Jena.

Last indexed page 66.

69 (XXXIII, 4.) Zur Frage der Pathogenetität des Bacillus subtilis, bes für das Auge (especially for the eye). B. Kayser (Freiburg).
70 Plague Bacilli in the Blood. W. J. Calvert (St. Louis).
71 *Protection of Accessory Cavities Against Bacterial Invasion by Ciliary Movements. F. Törne (Lund).—Das Vorkommen von Bakterien und die Flimmerbewegung in den Nebenhöhlen der Nase.
72 Variations in Virulence of Different Cultures of Tubercle Bacilli. D. Vesspremi.—Virulenzunterschiede verschiedener Tub.-Bacillenkulturen.
73 Zur Kenntnis der Ratten-Pest. T. Skschivan (Odessa).
74 Ueber ein für Haus-Ratten pathogenes Bakterium. C. Toyama (Tokyo).
75 Forest Mosquitoes and Forest Malaria. A. Lutz (Sao Paulo, Brazil).—Waldmosquitos und Waldmalaria.
76 Some Observations on the Protective Bodies and on Their Relation to Bacterial Virulence. E. W. Ainley Walker (London).
77 Die Züchtung von Gonokokken auf "Thalmann-Agar." S. H. Brongersma and T. H. Van de Velde.
78 *New Stain for Flagella. E. Gemelli (Milan). Eine neue Färbemethode der Bakteriengeisseln.
79 (No. 5.) Contribution à l'étude des caractères morphologiques et des cultures du Bacterium pestis et des rapports de ce bacille avec Bacterium pseudotuberculosus rodentium. B. Galli-Valerio (Lausanne).
80 Immigration of Ankylostomum Through the Skin. A. Looss (Cairo).—Weiteres über die Einwanderung der Ankylostomen von der Haut aus.
81 Immunity to Anthrax. O. Bail (Prague).—Untersuchungen über natürliche und künstliche Milzbrandimmunität.
82 A Study of Immunization Hemolysins, Agglutinins, Precipitins and Coagulins in Cold-blooded Animals. H. Noguchi (Woods Holl, Mass.).
83 The Interaction of the Blood of Cold-blooded Animals with Reference to Hemolysis, Agglutination and Precipitation. Ibid.
84 Properties of Serums. W. Beljaeff (Moscow).—Ueber einige Eigenschaften agglutinierender sowie auch anderweitiger spezifischer Serumarten. (Commenced in No. 4.)
85 Experimentelle Untersuchungen über die Ausscheidung der Typhus-Bacillen. C. Stäubli (Zurich).
86 Zur Kenntnis der Symptome und Prophylaxie der experimentellen Lyssa. D. Konradi.
87 Apparat für Anaeroben-Kulturen. S. S. Mereshkowsky (St. Petersb.).
88 Ueber den Nachweis der Typhus-Bakterien in Wasser nach der Methode von Dr. A. E. Windelbandt. E. Schelewsky.

71. **Bacteria and the Ciliated Epithelium of the Accessory Cavities.**—Törne found in calves and cadavers examined within two hours after death that the nasal accessory cavities were always sterile. He assumes that the ciliary movements are an important factor in preventing the entrance of bacteria.

78. **Stain for Flagella.**—Gemelli states that the flagella show up beautifully by the simple stain he describes, and that it never fails. He has studied with it the typhoid, colon and cholera germs, proteus, etc. The best media for this purpose are made with glycerin. A loop of the culture is diluted with 5 c.c. of distilled water on a watch glass, and one drop of the mixture is transferred to a boiled cover glass just taken out of alcohol. It is then dried under glass. The cover glass is then placed for ten to twenty minutes in a solution of 25 cg. potassium permanganate in 100 gm. distilled water. The cover glass is then rinsed in distilled water and placed in a stain made by adding 1 per cent. neutral red solution to a solution of .75 gm. calcium chlorid in 100 gm. distilled water, in the proportion of 20 to 1. The cover glass is left in this fluid for fifteen to thirty minutes. It is then rinsed, dried with blotting paper and mounted in balsam.

Deutsche Zeitschrift f. Chirurgie, Berlin.

Last indexed page 218.

89 (LXVIII, 3-4.) Obituary of Eugen Hahn. H. Neumann.
90 *The Appendix in Gynecology. Hermes (Berlin).—Erfahrungen und Veränderungen des Wurmfortsatzes bei gynecologischen Erkrankungen.
91 Bakteriologische Studien an der Hand von 46 Gallensteln-Operationen nebst einem Beitrag über ettologische Fragen des lithogenen Katarrhs der Gallenblase. O. Hartmann (Jena).
92 Crushing and Aspiration of Urinary Calculi. C. Krüger (Berlin).—Zur "Blasensteinzertrümmerung" mit nachfolgender Aspiration.
93 Renal Papillomata. M. Matsuoka.—Ueber multiple Papillome der harnführenden und der harnbereitenden Wege der Niere.
94 Elevation of Scapula. Kayser.—Ueber Hochstand des Schulterblattes mit congenitalen Hals- und Schulter-Muskel-Defecten.
95 Flat Foot and Pes Calcaneus. M. Hofmann.—Zur Anatomie und Mechanik des Platt und Hackenfusses.
96 *Ueber die genuine diffuse Phlebarteriektasie an der oberen Extremität. Löwen (Leipsic).
97 Ueber das Uterus-Papillom. N. Biagi (Rome).
98 Suggestions for an Ideal Surgical Clinic. V. Chlumsky (Cracow).—Ueber Bau und innere Einrichtung einer chirurgischen Klinik.
99 (No. 5-6.) Obituary of Max Schede. H. Graff.
100 *Zur Statistik der operativ behandelten Aneurysmen. H. Jakobsthal. (Commenced in preceding number.)
101 Prognosis of Fractures of Base of Skull. Graf (König's clinic, Berlin).—Prognose der Schädelbasisbrüche.
102 *Ueber Prostatitis acuta mit Abscessbildung nach Furunkulose. A. Söhngen.
103 *Hernlotomy on Infants and Children. Grunert (Magdeburg).—Ueber Hernlotomien im Kindesalter, insbes. im Säuglingsalter, darunter 2 seltene Fälle von Einklemmung.
104 Zur Casuistik des Exophthalmus pulsans. J. H. Thierry (alparaiso). Two cases.

90. **The Appendix in Gynecologic Affections.**—Hermes thinks that the appendix is sometimes responsible for affections of the internal genitals, and advises examining it whenever the abdomen is opened for any cause. If signs of inflammation are found in the appendix it should be removed, especially if accompanied by adhesions.

96. **Phlebarteriectasia.**—Löwen does not refer to varicose aneurism, but merely to general diffuse dilatation of the veins and arteries without communication between them, as he observed in a case recently in his charge. The patient was a locksmith, 43 years of age, and one arm was affected. After excision of the radial dilatations the pains in the fingers were relieved, and he was able to return to his occupation. The affection gradually progressed and amputation is being considered as the last resort. This was done in 4 out of the 6 cases of the condition found in the literature, always forced by threatening hemorrhage. Löwen adds a list of nineteen works on the subject, but it contains no American names. In 3 of the 7 cases the right arm and in 4 the left was affected, and all the subjects were men, with one exception.

100. **Statistics of Operative-Treated Aneurisms.**—This communication issues from Braun's clinic at Göttingen. In the first part the history of operative treatment of idiopathic aneurism of the subclavian is reviewed, with a bibliography of 94 references and 21 new cases collected since Souchon's statistics of 81 in 1890. In the 21 new cases there were 17 men and 1 woman; the right subclavian was affected in 12 and the left in 5. In 19 cases followed for sufficient length of time 13 were permanently improved and 3 definitely cured. Treatment by distal ligature has 3 improvements out of 5 to its credit; proximal ligature, 5 out of 7; both distal and proximal, 1 out of 2, and extirpation, 3 cures out of 4 cases. The general conclusions of the work are that extirpation is the ideal method of treatment. It not only guarantees a radical cure, but also prevents the pains liable to occur after the aneurism has been obliterated by thrombi. Extirpation is not practicable if the walls are thin and pulsating unless the aneurism is very small and free from adhesions, or if large, is partially obliterated with thrombi. In case the aneurism is adherent to the clavicle and subclavian vein, the parts involved must be resected too. When extirpation is impossible, proximal ligature is next advisable. If the contents of the sac do not become solid after central ligature, a distal one should be applied. The latter alone offers little prospect of a cure. In case operative treatment is impossible Macewen's method of introducing needles and scratching the walls certainly deserves attention, as it proved successful in one case in his experience. As a last resort, electrolysis and "filipuncture" might be tried. Each has one case of improvement to its credit. Judgment is still in suspense in regard to the efficacy of gelatin injections.

The second part of the work is devoted to aneurism of the aorta, reviewing 13 new cases in addition to the 34 of previous statistics. In 10 the thoracic aorta was involved, and in 3 the abdominal. The results of operative treatment demonstrate that simultaneous ligature of the right carotid and subclavian in case of aneurism of the ascending aorta can not be considered a particularly dangerous operation. In a number of cases it was followed by improvement in both the subjective and objective symptoms. The same remarks apply also to ligature of the left carotid or simultaneous ligation of the left and subclavian in case of aneurism of the arch. Reports of the ultimate outcome of the cases on record are needed before final judgment can be passed on this operative treatment.

102. **Acute Prostatitis After Furunculosis.**—In the case described, as also in 4 found in the literature, the inflammation and abscess formation in the prostate originated in hemato-

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genic infection. In 3 there was pyemic metastasis. The abscess should be incised and evacuated as soon as diagnosis is possible.

103. **Hernia in Young Children.**—In Grunert's 34 cases all were boys but one, and phimosis was noted in 13. The frequency of this coincidence of phimosis suggests some causal connection, and that circumcision might be useful in prophylaxis. None of these patients were Jews.

Zeitschrift f. Heilkunde (Chiari's), Prague.

Last indexed page 142.

105 (XXIV, 3: Surgery, 1.) Structure of Spongiosa of Upper Extremity. K. Büdinger.—Der Spongiosabau der oberen Extremität. II. First part in preceding volume. Seventy-eight cuts and 7 plates.
106 2 Fälle von Teratom der Sacral-Gegend. J. Preindlsberger (Sarajevo).
107 Fall von Fett-Embolie nach Redressement. Ibid.
108 Case of Pigmented. Plexiform Neuro-Fibroma. Ibid.—Fall von Rankenneurom mit Pigmentbildung.

Sei-I-Kwai, Tokyo.

Last indexed XL, page 882.

109 (XXII, 1-5.) *On the Weight of the Encephalon of the Japanese. K. Taguchi.
110 The Impregnated and Non-Impregnated Ova of the Ascarides. K. Miura.
111 Investigations on Poisonous Rice. J. Sakaki.
112 *Tuberculosis.
113 *Public Health in Japan.

109. **Weight of the Brain of the Japanese.**—Taguchi compares the weight of the brain as noted in 397 male subjects, with similar statistics in England. It ranges from 1,345 gm. between 14 and 20, to 1391 between 40 and 50, and declines to 1,333 between 70 and 80. The corresponding English averages for 699 subjects were 1,376 gm., 1,360 and 1,290. The Japanese male brain, therefore, averages higher than the English, as also the female brain. It averaged 1,246 to 1,130 gm. for 766 English women and from 1,264 to 1,102 for 156 Japanese.

112. **Communicability of Tuberculosis.**—An editorial announces that in October, 1901, twelve healthy cows were inoculated with human tubercle bacilli in some official tests at the "Cattle Epidemic Laboratory of the Department of Agriculture and Commerce." In March, 1902, the cows all responded to tuberculin with a pronounced reaction, and when they were slaughtered recently unmistakable lesions of tuberculosis were found.

113. **Public Health Matters in Japan.**—Dr. Yamane, a member of the house of representatives, proclaimed, in a recent debate, that more than 130,000 persons succumb annually to tuberculosis in Japan, and the number is constantly increasing. In regard to leprosy he stated: "There is no country in the world in which this disease is so prevalent and so neglected. The home office returns show that there are 33,059 lepers in Japan, while their offspring number 999,300. The authorities allow leprous beggars to sit on the public streets and to infect the very air with their spittle. . . . A very small percentage are taken into the charitable asylums under French or English management." He also referred to the fact that there are 880,000 trachoma patients in Japan, and that in Tohoku district it is impossible to obtain the requisite number of recruits for the army if some sufferers from this disease are not admitted, adding, "The Japanese army will physically collapse if things are to go on in this manner." In conclusion he raised the question as to whether the prophylactic injections of anticholera serum should be continued, claiming that they had proved practically a failure last year.

Rivista di Patologia nervosa e mentale, Florence.

Last indexed XL, page 1177.

114 (VIII, 2.) Glioma bilaterale del centro semiovale. E. Lugaro.
115 Non-existence of a Peripheral, Interretinic Commissure. R. Rebiati.—Non esiste una commessura periferica inter-retinica.
116 Bulbar Connections of Vagus. G. T. Allegra.—Sulle connessioni bulbari del nervo vago.
117 Sulle pseudo-allucinazioni (allucinazioni psichiche di Baillarger). E. Lugaro. (Commenced in No. 1.)
118 (No. 3.) Local Action of Urine on Blood Vessels. B. Vasoin and G. Astolfoni.—Azione locale dell'urina sui vasi sanguigni.
119 Alterazioni degli elementi nervosi centrali e periferici consecutive all' avvelenamento subacuto e cronico per C O. F. Federici.

New Patents.

Patents of interest to physicians, June 16, 23 and 30:

730911. Plaster package. Frank F. Hawkins, Troy, N. Y.
731188. Druggist's mass-divider. John W. Jackson, Weston, Mo.
730926. Film for wrapping medicines. Masataro Kobayashi, Ise, Wataraikori, Tamaru-Machi, Japan.
731201. Supporting bandage. Lee R. Miller and E. T. Richert, Akron, Ohio.
731131. Pasteurizer. Wm. J. Ruff, Quincy, Ill.
731083. Surgical appliance. Lewis G. Tandy, St. Louis.
731141. Truss. Oakes Tirrill and A. De Vevoise, New York.
730981. Dispensing apparatus. Dayvre B. de Waltoff, New York.
731004. Thermocautery. Louis Wirsching, New York.
731543. Massage instrument. John H. and C. Carpenter, Chicago.
731767. Shield for *x*-ray tubes. Robert Friedlander, Chicago.
731578. Solid soluble antiseptic. Rene Koehler, Lyons-Monplaisir, France.
731693. Massage roller. Talbot Lennox, Ames, Iowa.
731610. Fumigating tent. Wm. H. Payne, Monrovia, Cal.
731496. Gastroscope. Paul Poirier and P. Michel, Paris, France.
731709. Truss. John Railton, Cheboygan, Mich.
731615. Tincture extractor. Henry Redlich, Chicago.
731973. Nasal inhaler. Charles K. Teter, Upper Sandusky, Ohio.
732035. Pasteurizer. S. M. Barre and C. Mignault, Winnipeg, Canada.
732159. Apparatus for generating formaldehyd. Edgar F. Billings, Boston.
732620. Druggist's dispensing oil can. Joseph A. Dinkler, Anadarko, Oklahoma.
732414. Massage machine. Thomas D. Ingram, Washington, D. C.
732356. Massage instrument. Benjamin E. Joseph, Chicago.
732689. Medicine dropper. Frank A. Liftchild, Brooklyn.
732361. Hernia truss. Heinrich Loewy, Berlin, Germany.
732135. Atomizer. Charles A. Tatum, New York.
36397. Design, water bag. Edward E. Menges, New Haven, Conn.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

URIC ACID AS A FACTOR IN THE CAUSATION OF DISEASE. A Contribution to the Pathology of High Blood Pressure, Headache, Epilepsy, Nervousness, Mental Diseases, Asthma, Hay Fever, Paroxysmal Hemoglobinuria, Anemia, Bright's Disease, Diabetes, Gout, Rheumatism, Bronchitis and Other Disorders. Alexander Haig, M.A., M.D. Oxon., F.R.C.P., Physician to the Metropolitan Hospital and the Royal Hospital for Children and Women. Sixth Edition. With 75 Illustrations. Cloth. Pp. 947. Price, $3.50 net. Philadelphia: P. Blakiston's Son & Co. 1903.

ORGANIC NERVOUS DISEASES. By M. Allen Starr, M.D., Ph.D., LL.D., Professor of Diseases of the Mind and Nervous System, College of Physicians and Surgeons. Illustrated with 275 Engravings in the Text and 26 Plates in Colors and Monochrome. Cloth. Pp. 751. Price, $6.00 net. New York and Philadelphia: Lea Brothers & Co. 1903.

ON SYPHONAGE AND HYDRAULIC PRESSURE IN THE LARGE INTESTINE, with Their Bearing on the Treatment of Constipation, Appendicitis, etc. By Ralph Winnington Leftwich, M.D., Late Assistant Physician to the East London Children's Hospital. Cloth. Pp. 80. Price, $1.00 net. New York: William Wood & Co. 1903.

PROTOZOA AND DISEASE. By J. Jackson Clarke, M.B. Lond. Cloth. Pp. 177. Price, $2.50 net. New York: Wm. Wood & Co. 1903.

The Public Service.

Army Changes.

Movements of officers of the Medical Department, U. S. A., under orders from the Adjutant-General's Office, Washington, D. C., for the week ending Saturday, July 11:

Rhoads, Thomas L., first lieut. and asst.-surgeon, will proceed to Hot Springs, Ark., and report in person to the commanding officer of the Army and Navy General Hospital for treatment, and when in the opinion of the commanding officer of the hospital he has sufficiently recovered, he will return to his proper station at the U. S. General Hospital, San Francisco, Cal.

Richardson, George H., first lieut. and asst.-surgeon, will proceed to Fort Bayard and report at the U. S. General Hospital for temporary duty during the absence of Capt. George M. Wells, asst.-surgeon, and on the return of Capt. Wells to duty will rejoin his proper station at Fort Logan.

Spilman, R. S., contract surgeon, is granted leave for one month from about June 25.

Truby, Willard F., first lieut. and asst.-surgeon, now on temporary duty at Fort Ethan Allen, is assigned to permanent duty at that post.

Tenney, E. R., contract surgeon, is granted leave of absence for one month.

Woods, Oscar W., contract surgeon, now under treatment at the U. S. General Hospital, Presidio, is relieved from further duty in the Division of the Philippines, and will proceed to Vancouver Barracks and report to the commanding general, Department of the Columbia, for assignment to duty.

Arthur, William H., major, surgeon, is granted leave for six days.

Brown, Henry D., contract surgeon, is relieved from duty in the Division of the Philippines and from temporary duty at the Presidio for assignment to duty with the Second Battalion of the 19th Inf., and to accompany that battalion to Vancouver Barracks, where he will report to the commanding general, Department of the Columbia, for assignment to duty.

Borden, William C., major, surgeon, is granted leave for one month and fifteen days, to take effect about July 17.

Corbusier, William H., major, surgeon, is relieved from duty at Fort Crook, to take effect at such time as will enable him to proceed to San Francisco, Cal., and report for transportation to the Philippine Islands on the transport to sail from San Francisco August 1. On his arrival at Manila Major Corbusier will report to the commanding general, Division of the Philippines, for assignment to duty.

Duval, Douglas F., first lieut. and asst.-surgeon, will report to Maj. Louis A. La Garde, surgeon, president of the examining board at the Army Medical Museum Building, Washington, D. C., for professional examination and physical re-examination for promotion.

Devereux, John R., first lieut. and asst.-surgeon, is relieved from further duty at Fort Snelling and will proceed to Fort Meade for duty, to relieve Maj. Frank R. Keefer, surgeon, in time to enable him to comply with his orders for the Philippine Islands.

Foster, Chas. L., contract surgeon, now in Washington, D. C., will report to Capt. Egbert Meyer for duty.

Gandy, Charles M., major, surgeon, is relieved from duty in the Division of the Philippines, to take effect at such time as will enable him to proceed on the first transport to sail after September 1 from Manila to San Francisco, Cal., where he will report by telegraph to the adjutant-general of the Army for further orders.

Henderson, Albert B., first lieut. and asst.-surgeon, is granted leave for one month and ten days on surgeon's certificate, to take effect about July 10.

Keefer, Frank R., major, surgeon, is relieved from duty at Fort Meade, to take effect at such time as will enable him to proceed to San Francisco, Cal., and report for transportation to the Philippine Islands on the transport to sail from San Francisco September 1. On his arrival at Manila Maj. Keefer will report to the commanding general, Division of the Philippines, for assignment to duty.

La Garde, Louis A., major, surgeon, is granted leave for one month, with permission to apply for an extension of three months, to take effect about July 15.

Mason, Chas. F., major, surgeon, is granted seven days' leave, to take effect on the adjournment of the board of medical officers.

Marrow, Chas. E., first lieut. and asst.-surgeon, is relieved from further duty at Fort Sheridan and will proceed to Fort Crook for temporary duty.

Polhemus, Adrian S., major, surgeon, is relieved from duty in the Division of the Philippines, to take effect at such time as will enable him to proceed on the first transport to sail after September 1 from Manila to San Francisco, Cal., where he will report by telegraph to the adjutant-general of the Army for further orders.

Rutherford, Henry H., first lieut. and asst.-surgeon, is relieved from further duty at the U. S. General Hospital, Presidio, and will proceed to Fort Mackenzie for duty.

Williamson, Llewellyn P., first lieut. and asst.-surgeon, is relieved from further duty at Jefferson Barracks and will proceed to San Francisco, Cal., and report for assignment to temporary duty at the U. S. General Hospital, Presidio of San Francisco, Cal.

Winter, Francis A., captain and asst.-surgeon, is granted leave for ten days with permission to apply for an extension of twenty days.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending July 11, 1903:

Asst.-Surgeon R. L. Sutton detached from Naval Hospital, Washington, D. C., and ordered to Baltimore, Md., for special temporary duty.

Asst.-Surgeon O. Kohlhase ordered to Naval Hospital, Mare Island, Cal.

Asst.-Surgeon W. H. Rennie ordered to Naval Hospital, Naval Home, Philadelphia, Pa.

Asst.-Surgeon W. B. Smith ordered to Naval Hospital, Pensacola, Fla.

Asst.-Surgeons J. S. Woodward and P. T. Dessez ordered to Naval Hospital, Navy Yard, Washington.

Asst.-Surgeon J. D. Manchester ordered to Naval Hospital, Navy Yard, Boston, Mass.

Asst.-Surgeons A. J. Geiger and W. S. Haen ordered to Naval Hospital, Navy Yard, Norfolk, Va.

Asst.-Surgeons C. E. Ryder and J. A. Randall appointed asst.-surgeons with rank of lieutenant, junior grade, from June 26, 1903.

Acting Asst.-Surgeon J. T. Miller ordered to Navy Yard, Mare Island, Cal.

Acting Asst.-Surgeon F. W. Tyree appointed acting asst.-surgeon with rank of lieutenant, junior grade, from July 1, 1903.

Medical Inspector S. H. Dickson granted sick leave for three months.

Acting Asst.-Surgeon G. R. Plummer appointed acting asst.-surgeon with rank of lieutenant, junior grade, from July 1, 1903.

Surgeon H. N. T. Harris detached from *Glacier* and ordered home to wait orders.

Surgeon F. W. F. Wieber detached from Naval Academy and ordered to wait orders.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended July 9, 1903:

Surgeon J. M. Gassaway granted leave of absence for two days from June 28, amended so as to be effective from July 5.

Surgeon G. W. Stoner to proceed to Richford, Vt.; Malone, Niagara Falls and Buffalo, N. Y.; Montreal, Canada; Port Huron, Detroit, and Sault Ste. Marie, Mich., for special temporary duty.

Asst.-Surgeon C. E. Decker, granted extension of leave of absence, on account of sickness, until July 15.

Asst.-Surgeon F. E. Trotter, granted leave of absence for 7 days.

Asst.-Surgeon A. J. McLaughlin, assigned in charge of Miscellaneous Division, Bureau of Public Health and Marine-Hospital Service.

Asst.-Surgeon H. McG. Robertson, granted leave of absence for 5 days.

Acting Asst.-Surgeon R. Chandler, granted leave of absence for 8 days from July 18.

Acting Asst.-Surgeon F. H. Cleaves, granted leave of absence for 23 days from July 6.

Acting Asst.-Surgeon R. S. Primrose, granted leave of absence for 10 days.

Acting Asst.-Surgeon W. M. Wightman, granted extension of leave of absence for one week from June 26.

BOARD CONVENED.

Board convened to meet at Washington, D. C., July 8, 1903, for the purpose of considering the preparation of plans for the inspection of vaccine farms and antitoxin establishments. Detail for the board: Asst. Surgeon General H. D. Geddings, chairman; P. A. Surgeon M. J. Rosenau; P. A. Surgeon J. F. Anderson, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 11, 1903:

SMALLPOX—UNITED STATES.

California: Fresno, June 1-30, 7 cases; Stockton, 4 cases.
Colorado: Denver, June 6-20, 15 cases.
Georgia: Atlanta, June 24-July 1, 2 cases.
Illinois: Belleville, June 27-July 4, 6 cases; Chicago, 11 cases.
Indiana: Elwood, June 28-July 5, 3 cases.
Iowa: Des Moines, June 27-July 4, 3 cases.
Kentucky: Lexington, June 27-July 4, 1 case.
Louisiana: New Orleans, June 27-July 4, 1 case.
Maryland: Baltimore, June 27-July 4, 1 case; Cumberland, May 1-June 30, 45 cases, 6 deaths.
Massachusetts: Fall River, June 27-July 4, 1 case; New Bedford, June 29-July 6, 1 case.
Michigan: Detroit, June 27-July 4, 5 cases, 1 death; Flint, 1 case; Grand Rapids, 1 case; Port Huron, 5 cases.
Minnesota: Winona, June 27-July 4, 1 case.
Missouri: St. Louis, June 21-July 5, 7 cases.
Montana: Helena, June 1-30, 1 case.
New Hampshire: Manchester, June 27-July 4, 7 cases.
New York: Elmira, June 27-July 4, 1 case.
Ohio: Hamilton, June 27-July 4, 1 case; Toledo, 1 case.
Pennsylvania: McKeesport, June 27-July 4, 2 cases; Philadelphia, June 26-July 3, 30 cases, 8 deaths; Pittsburg, June 20, July 4, 46 cases, 9 deaths, two cases imported.
South Carolina: Charleston, June 27-July 4, 8 cases; Greenville, June 20-27, 1 case.
Tennessee: Nashville, June 27-July 4, 1 case.
Utah: Salt Lake City, June 21-27, 7 cases.
Washington: Tacoma, June 22-29, 1 case.

SMALLPOX—INSULAR.

Philippine Islands: Manila, May 8-16, 6 cases.

SMALLPOX—FOREIGN.

Belgium: Brussels, June 13-20, 7 deaths; Liege, June 6-13, 1 case, 1 death.
Brazil: Rio de Janeiro, May 31-June 14, 12 deaths.
Canary Islands: Las Palmas, June 6-13, 9 cases.
Chile: Antofogasta, May 1-31, 3 deaths.
China: Hongkong, May 20-27, 2 cases.
Colombia: Bocas del Toro, June 17-24, 2 deaths.
Great Britain: Birmingham, June 13-20, 1 case; Dublin, 9 cases, 3 deaths; Leeds, June 20-27, 10 cases; Liverpool, to June 20, 24 cases, 2 deaths; London, June 13-20, 16 cases; Manchester, 3 cases, 1 death.
India: Bombay, June 2-9, 24 deaths; Calcutta, May 30-June 6, 2 deaths; Karachi, May 30-June 7, 1 death.
Mexico: Coatzacoalcos, June 20-27, 1 case; Tampico, 1 death.
Russia: Moscow, June 6-13, 3 cases, 2 deaths; St. Petersburg, June 13-20, 35 cases, 2 deaths; Warsaw, May 31-June 6, 6 cases.
Turkey: Constantinople: June 14-21, 1 death.

YELLOW FEVER.

Alabama: Mobile, July 3, 1 case on S. S. *Mount Vernon*, from Limon. July 4 death of case occurred at Gulf Quarantine, Ship Island.

YELLOW FEVER—FOREIGN.

Ecuador: Guayaquil, June 6-13, 1 death.
Mexico: Progreso, June 20-27, 1 case; Tampico, June 13-20, 37 cases, 23 deaths; Tampico, June 20-27, 30 deaths; Vera Cruz, 20 cases, 8 deaths.

CHOLERA—INSULAR.

Philippine Islands: Manila, May 8-16, 66 cases, 58 deaths; Provinces, 358 cases, 245 deaths.

CHOLERA—FOREIGN.

India: Bombay, June 2-9, 1 death; Calcutta, May 30-June 6, 35 deaths; Karachi, May 31-June 7, 1 death.

PLAGUE—INSULAR.

Philippine Islands: Manila, May 8-16, 8 cases, 8 deaths.

PLAGUE—FOREIGN.

Africa: Cape Colony, May 10-16, 6 cases.
China: Amoy, May 9, 50 deaths; Two Kwangs, May 12, daily increasing.
India: Bombay, June 2-9, 229 deaths; Calcutta, May 30-June 6, 11 deaths; Karachi, May 31-June 7, 43 cases, 35 deaths.
Japan: Nagasaki, May 21-31, 1 case, 1 death; Yokohama, May 23-30, 3 cases, 3 deaths.

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